Page 6 Publishing's

NEW ATARI USER

The Resource for the ATARI CLASSIC and the ATARI ST

Issue 81 - Spring/Summer 1997 £2.50

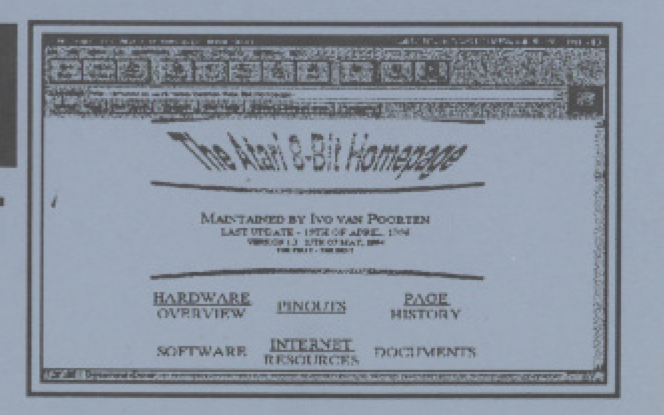
FOR THE ATARI CLASSIC



- ***CIRCLES AND SPIRALS***
  Graphics without the headaches
- ***CONSTANT CONVERTER***
  Save program memory by using variables
- ***FREE RS232***
  Help to build your own interface

THE WIDER SCENE

LOTS OF ATARI 8-BIT STUFF ON THE INTERNET!



PLUS ... COMPUTER INTELLIGENCE ... ADVENTURES ... THE TIPSTER ... CLASSIC PD ZONE ... AND MORE!

This issue's ....

Thanks

Les Ellingham puts it all together and fills up the gaps but the real thanks goes to the following who made this issue possible

Sandy Ellingham who takes care of all the office work, advertising and mail order

For their contributions this issue

Avram Dumitrescu	*Edmund Blake*
Dave Barclay	*Ann O'Driscoll*
Graeme Fenwick	*Austin Hillman*
Charlie Ayres	*Dean Garraghty*
Daniel Yelland	*John Foskett*
James Mathrick	*John S Davison*

Inspiration

Almost total listening over the past couple of months, and as I type this, is Robbie Robertson's Music for The Native Americans. You might recall last year that I mentioned a band called The Little Wolf Band in glowing terms, well this is what inspired that recording. Finding stuff like this is a long, hard, process, involving lots of effort and energy. We were in Glastonbury earlier this year and in a shop that had a selection of World music, I found a book listing Native American recordings. Surprisingly, in this was a couple of albums by Robbie Robertson. I didn't take any notes but it stayed in the back of my mind whenever I chanced upon a record shop. Of course, nobody keeps much non-mainstream stuff now so I had to wait until I could visit HMV on a new shopping park just outside Birmingham where I found the aforementioned CD. All I have to do now is find the other one, but that could be a longer search!

APOLOGIES

I am still extremely poor in acknowledging contributions so I apologise to everyone who has sent in stuff and thought it has gone through the wormhole. The intention to reply to everyone is there but the time seems to drift by. If you have not heard, thank you and keep watching the mag, you might be surprised.

HOW IT'S DONE

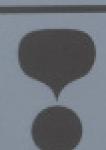
PAGE 6 shows just what you can do with your Atari. NEW ATARI USER has always been created entirely with Atari equipment, initially on the XL but more lately with a Mega ST and other stuff, who needs PC's or Macs! Hardware includes a Mega ST2 (upgraded to 4Mb), SM125 Monitor, Supra 30Mb Hard Disk, a HP Laserjet III, Citizen 124D printer, Philips CM8833 monitor, 130XE, a couple of 1050 disk drives, 850 interface, NEC 8023 printer. Principal software used is Protext and Fleet Street Publisher 3.0. Other software includes Kermit, TariTalk, Turbo Basic and various custom written programs on the XL/XE. Articles submitted on XL/XE disks are transferred across to the ST via TARITALK. Programs are coded on the XE and printed out directly for pasting in after the typesetting is completed. All major editing is done with Protext and pages are laid out with Fleet Street Publisher. Each page is output directly from Fleet Street to a HP Laserjet III which produces finished pages exactly as you see them. All that is left is to drop in the listings and photos.

Well, it's not quite as easy as that but you get the idea!

CONTRIBUTIONS

Without contributions from its readers, NEW ATARI USER would not be possible. PAGE 6 welcomes and encourages its readers to submit, articles, programs and reviews for publication. Programs must be submitted on disk or cassette, articles should wherever possible be submitted as text files on disk. We seek to encourage your participation and do not have strict rules for submissions. If something interests you, write a program or article and submit it!

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Editor & Publisher: Les Ellingham - *Advertising:* Sandy Ellingham
Page layout by PAGE 6 - Printed by Dolphin Press, Fife, Scotland 01592 771652
NEW ATARI USER is published bi-monthly on the last Thursday of the month prior to cover date

PAGE 6 PUBLISHING's NEW ATARI USER

'The Magazine for the Dedicated Atari User'

ISSN No. 0958-7705

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Annual subscription rates (6 issues)

UK	£15.00
Europe (Air Mail)	£17.00
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Elsewhere (Air Mail)	£23.00

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DISK SUBSCRIPTION

A disk containing all of the 8-bit programs from each issue of NEW ATARI USER is available either separately or on subscription. Single price £2.95 per disk, a disk subscription saves you almost £8 a year. Subscription rates (6 issues)

UK	£25.00
Europe	£32.00
Elsewhere (sea)	£32.00
Elsewhere (Air)	£42.00

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Editorial

Thank you for your patience. This issue has been a long time coming for several reasons but I hope you will understand and do what you can to help get the next one out a little earlier.

The first reason for the delay is that just as I was about to start the issue back in March my mother was taken into hospital and she died a couple of weeks later. That slowed us down and cut down on the time I needed for various other activities that I now have to do to make a living. After that I waited for certain columns to come in and waited for your letters for Mailbag - and waited and waited. Each time a 'slot' of time came along to fit in the work needed for the magazine I was still waiting for some columns and some letters. Eventually I decided that enough was enough and I went ahead with one regular column missing and no Mailbag. That's right - no Mailbag - not even one page, for believe it or not I did not receive one single letter from you following the last issue, the first time this has happened in 15 years!

I am quite disappointed to have to miss out Mailbag, not only because it provides a good opportunity to read about other people's exploits with their Atari and for you to share problems and experiences, but also because it means that I have had to use other articles that I was saving for later issues, to fill the space. We don't have unlimited articles and contributions on hand and if I keep having to use a couple of articles intended for future issues to fill up the Mailbag slot, we are likely to run out of things to print. It also makes it harder to achieve a good balance of articles in each issue. *The solution is simple.* Write to Mailbag. I have said this many times before but this is your magazine, filled with your contributions and if you don't make any, you can't blame anyone else for delays or lack of interesting articles. Please do your bit and, if you can't send in an article or program, at least write to Mailbag.

Another thing that makes it more difficult for us is the lack of support recently for the Accessory Shop. I know that we have run out of new PD to add each issue but I also know that very few of you have all of the PD disk we have issued. In fact, whenever someone sends in a list of equipment they want to sell, I am constantly surprised to find that they have maybe only half a dozen disks from the PD library. Out of something like 400 disks! Make an effort this issue and buy a couple of PD disks. If you buy a couple of disks each issue it will cost you only a few pounds, but if everyone does it it would make an enormous difference to the support we can give to the magazine.

I want the next issue to come out in exactly two months time, but I need your support to make it so (as Jean-Luc would say).

I was going to use this issue's editorial to talk about the Internet, having tasted its delights in a Cyber café in Glastonbury earlier this year, but that will have to wait for the next time. See you then!

Les Ellingham

Features and OPINIONS

IN THE BEGINNING

A chance purchase leads Avram Dumitrescu back to Atari's roots

Atari's Video Cartridge System was the first ever that showed what computers really shouldn't do but often ultimately do - play games. Technically, machines that came before, such as the massive university mainframes and other warehouses of electronics, were quite capable of asking you to 'Guess the Animal' and 'Guess the number I've picked between one and a hundred'. True, these were games but not quite as thrilling as alien annihilation.

Before the VCS, most video-game playing was done in a smoky pub blipping blops on Pong or frying monsters with xenophobic rage on Space Invaders. 1977 came and suddenly you could play these in your home for free!

A DESIGNER BLACK BOX

I recently found a VCS in a market and took it home. It's as long as two and a half video cassettes placed together with the slight slope seen on most computer keyboards. Why? It could be that the designers wanted to make it look like a small, slim typewriter without the keys or that a black plastic box isn't as attractive as a black plastic box with a *slope*. Uninterestingly enough, future game systems are shaped without the typewriter slope and resemble somewhat stylish plastic bricks - the NES, Master System, Saturn and Playstation.

I bought two cartridges, Defender and Galaxian, and spent half an hour finding spare leads to connect everything together. I plugged in Galaxians and saw three slender bars on the television. It didn't work.

Defender did. As soon as power fizzled through the system a five colour screen appeared. Pressing start I could control a tiny blue spaceship. I won't bore you with the game controls and other things except that every time I pressed the joystick trigger and a deliciously long laser bar whooshed across the screen *my craft disappeared*! Star Trekkies know that Klingon ships have to 'decloak' (become visible whilst previously being invisible) to shoot laser beams. Is there a connection here? The most likely explanation is that the computer can't cope with too many objects on screen and momentarily vanishes your craft.

Initially, I wasn't impressed with the VCS's extremely basic graphics and nonexistent sound (do I have a faulty television or were you meant to suffer software without sound?). Still, quite surprisingly, Defender is fairly

engaging.

I'd advise you to try a VCS if you have the chance to, if only to see from what primeval silicon ooze the later Atari machines emerged. I guess most VCS games will play well as programmers didn't need to spend months tweaking sound and graphics and they put their energies into game mechanics.

THE WORLD'S FULL OF CARTRDIGES

According to figures, Atari sold six zillion trillion of these machines and ten times as many game cartridges. As with any successful product, imitations appeared. Matell's Intellivision was, I believe, Atari's main competitor. One cheeky company launched a widget that granted you the ability to play not only its own brew of games but *Atari VCS titles too!* That was the equivalent of using 'Love Me Do' by the Beatles to advertise Ronseal Wood Varnish without asking the Fabulous Four's lawyers.

Did Atari retaliate and launch their own device that allowed you to play non-Atari games on a VCS, thus possibly resulting in more software selection, greater sales of better games and, perhaps, the abolishment of the computer industry's biggest drawback, incompatibility between rival machines? Hell, no. Atari took them to court and won. Incidently, the VCS games adaptor was probably created because Atari was fortunate to have licenses to the best games of the early eighties - Pole Position, Pacman, Defender, Space Invaders and so on. Versions of these could be found on other machines but they were not the originals, only copies modified just enough as to not warrant a law-suit.

Still on a tangent, did you know scrolling (moving what you see on screen to something else by shifting the picture, like panning on television) is patented by Atari? No? Neither did Sega. Wired Magazine in May 1995 says Atari sued Sega silly for using this technique and got one hundred million dollars. Fifty years from now Atari may not be remembered for their innovative electronics but rather for their ruthless lawyers. Incidentally where has this money got to? Atari was taken over at the start of 1996 by JCV, a disk company. Are JCV now very rich or is the tax man due an early retirement?

FUNNY THINGS TO PLUG IN

Back to the VCS. Controlling games is normally by joystick but for programs needing more accurate and quicker response you could buy a touch-tablet (for Star Raiders), a trackball (Centipede and Missile Command) or a set of paddles (Break-out).

Standard stuff but the Vapourware catalogue holds more interesting devices. Vapourware is hardware developed and possibly functional but, for reasons rarely disclosed, not released. If Atari were brave with their inventions you could have had a keyboard called the Graduate. Musical? Possibly, because I think a 42 key touchpad called the Compumate had already been launched. It came with a BASIC language and 2K of RAM to write your programs in!

Far more intriguing is a nameless add-on that *responded to your voice and a headmount that read your thoughts.* Whoa - leave that Malibu bottle there, Avram.

A VCS that picks up your brain-waves? There have been experiments carried out in this field that discovered that electrodes attached to your head register different currents of electricity whenever you think 'yes' and 'no'.

The voice control system may have been equally simple and listened to the pitch or length of voice instead of understanding conversations. Very recent PC software CAN recognise individual words but needs time to become used to your voice and works at around one hundred words per second. The voice and thought system would have caused a small computer revolution if released in the early eighties.

MAKING ADVANCES

After such a successful machine Atari had to come up with a follow-up and so we had the 5200 VCS. According to information I received from the Atari Classic Programmer's Club, it is identical to an ordinary Atari eight-bit except certain chips were mapped in different areas of memory. Wisely, Atari did not advertise this machine too much as an 800XL would have done everything the 5200 could but has the added advantage of being a REAL computer with keyboard and disk-drive.

Atari's third console was a very good machine but suffered the infamous Atari Curse - marketing (or lack of it). Initially launched in 1984 the Atari 7800 VCS was soon withdrawn because the company was experiencing the dreaded decline which they never recovered from.

The 7800 had great internals. Programs ran through a 6502c processor and appeared in a 320 X 242 screen resolution in 256 colours with 2 sound channels. Not bad for a predecessor to the Nintendo Entertainment System.

It's unique selling point was a chip called MARIA. MARIA gave sixty-four sprites and possibly all kinds of dazzling graphical fandangos (Derek Fern of Micro Discount tried to connect a MARIA board to an 800XL but it didn't work).

Games for the 7800 were developed on an Atari ST and ported over. Zeppelin, the software house that put Zybex and Draconus on the Classic, used this kind of system. Code for their games was written on an ST and sent across to a waiting 800XL. Whether you had sixteen bit quality software on the console is unlikely.

NET NOSTALGIA

Information for the VCS has been very difficult to find but Derek Fern and the Internet have been fantastic help. Try a 2600 for nostalgia but the 7800 looks like a far better machine. I downloaded some screenshots from the Internet and while most equalled the Atari Classic I was stunned by Desert Falcon. Detail and colours were Atari ST quality.

One last point. Sound seems to be the shortcoming of the VCS range. Some 'super-cartridges' were developed with new chips built in. Ballblazer has an extra sound chip and Karateka another 48K ROM memory.

Why do you not see 7800 machines today? After making an absolute hash of things in 1984 Jack Tramiel tried to make Atari more efficient by cutting down on every 'unnecessary' office and project which included the 7800. Even a re-launch in 1986 flopped because, by then, the Sega Master System and Nintendo 8-bit machine had stolen the console market from Atari.

If you have any more information on the VCS range, please get in touch with me as I'd love to follow up this article. My address is :

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CIRCLES and SPIRALS

Dave Barclay shows you how to create an infinite variety of shapes in Graphics 8

It is always satisfying to write a short program that puts some interesting graphic shapes on the screen but when it comes to circles and the like, not many of us understand the mysteries of sines and cosines and the like. Fear not for here are a couple of programs that can be used as the base for an amazing variety of different shapes and you don't have to work out anything. Just tinker about with various values using the hints given and you can create some marvellous graphics of your own.

BASIC CIRCLE PROGRAM

Let's start with the basic program structure for circles which we'll amend as we go along. Type in the following program and save it to disk or cassette:

```
10 GRAPHICS 8+16:TRAP 30000
20 POKE 710,14:POKE 709,0:COLOR
1:DEG
30 L=0:EC=0:X=150:Y=90:RDS=50
50 GOSUB 100
70 GOTO 70
110 X1=L1*EX*COS(L+RODG)+X:
Y1=L1*EY*SIN(L+RODG)+Y
130 IF L=0 THEN PLOT X1,Y1
140 L=L+ACC
150 IF EC=1 THEN PLOT
X1,Y1:EC=0:GOTO 100
160 DRAWTO X1,Y1
170 IF L<=P THEN GOTO 100
180 RETURN
30000 TRAP 30000:EC=1:GOTO 100
```

This base program will not run on its own as we have to add a couple of lines to create various shapes.

CREATING THE VARIATIONS

In the examples which follow you will be adding certain lines to the base program. Generally these lines are lines 40 and 100. You can enter the base program each time, add these lines, and then re-save the whole program with a new file name but there is another way which you may prefer.

SAVE the base program in the normal way. Type in the lines shown in the examples (after typing NEW) and LIST these to disk or tape using the command LIST "D:PETALS", or whatever filename you wish to use. Make sure you use different filenames for each variation. When you want to run the program, LOAD in the base program then ENTER the variation you want to run. After you have run the first one you can keep ENTERing new variations as each will overwrite the previous version.

PETALS

Load in the Base Circle program and add the following lines, then run the program.

```
40 NP=3:P=180:RODG=0:ACC=1:
EX=1:EY=1
100 L1=RDS*SIN(NP*L)
```

For an odd number of 'petals', let NP=the number of petals and P=180. For an even number of petals, let NP=half the number of petals and if NP is even let P=360 otherwise let P=180 and add the following line:

```
60 L=0:RODG=180:GOSUB 100
```

Hints for variations:

X and Y are the coordinates of the centre of the shape

RDS is the length of the petals, if EX=1 and EY=1

RODG is how many degrees clockwise the shape is rotated from its normal (i.e. when RODG=0)

The smaller ACC is, the more accurately the shape is drawn

Changing SIN in line 100 to COS rotates the shape 90 degrees clockwise

EX stretches the shape EX times horizontally

EY stretches the shape EY times vertically

LUMPY CIRCLE

Load in the Base Circle program and add the following lines:

```
40 NP=4:P=360:RODG=0:
ACC=1:DSZ=0.2:EX=1:EY=1
100 L1=RDS*(1+DSZ*COS(NP*L))
```

Hints for variations:

RDS is the average radius if EX=1 and EY=1

NP is the number of lumps

The larger DSZ is, the greater the distortion is. If DSZ=0 then a circle is drawn

EX, EY, RODG, X and Y perform the same functions as in 'PETALS'

Try making DSZ=COS(L) and NP=51 and

add the following line:

```
120 DSZ=COS(L)
```

Or you could make DSZ=COS(L)*SIN(L) in lines 40 and 120 with NP=51. Also you could try making RDS=40 in line 30, NP=51 and make DSZ=SIN(L) in lines 40 and 120

SPIKED CIRCLE

Make RDS=40 and add the following lines to the base program:

```
40 NP=4:P=360:RODG=0:ACC=1:
KPS=70:WEI=1:CSP=1:EX=1:EY=1
100 L1=RDS*(WEI+CSP*COS
(NP*L)^KPS)
```

Hints for variations:

The larger KPS is, the sharper the spikes are, but do not let KPS exceed 88
NP=half the number of spikes, generally, but if KPS=1 then NP=the number of 'petals'
RDS is the radius of the circle without the spikes and the length of the spikes is CSP*RDS, if EX=1 and EY=1. So the larger CSP is, the longer the spikes are
Try making CSP an odd number
EX, EY, RODG, X and Y perform the same functions as in 'PETALS'
Try changing WEI to a value less than 1
To reverse the spikes, change line 100 to
100 L1=RDS*(WEI-CSP*COS(NP*L)^KPS)

CIRCLES AND ELLIPSES

To draw plain circles and ellipses add the following lines to the base program:

```
40 ACC=1:RODG=0:P=360:EX=1:EY=1
100 L1=RDS
```

For a circle, EX and EY must be the same. The radius of the circle is EX*RDS or EY*RDS (It is best to make EX=1 and EY=1, so that then the radius of the circle is RDS)
For an ellipse, EX and EY must be different. The horizontal radius of the ellipse is EX*RDS and the vertical radius of it is EY*RDS
RODG doesn't affect the shape
X, Y and ACC perform the same functions as in 'PETALS'

STAR SHAPE

Add the following lines to the base program, make RDS=40 and then run it.

```
40 NP=12:P=360:RODG=0:
ACC=120/NP:CSP=1:EX=1:EY=1
100 L1=RDS*(1+CSP*COS(NP*L)^70)
```

Hints for variations:

NP is the number of 'spikes'
The length of the spikes is CSP*RDS, if EX=1 and EY=1
EX, EY, RODG, X and Y perform the same function as in 'PETALS'
RDS is the radius of the shape without the spikes, if EX=1 and EY=1
Try making NP=270, CSP=80 and RDS=1
To reverse the spikes change line 100 to:
100 L1=RDS*(1-CSP*COS(NP*L)^70)

POLYGON

Add the following lines to the base program:

```
40 NP=6:P=360:RODG=0:ACC=360/
NP:EX=1:EY=1
100 L1=RDS
```

Hints for variations:

NP is the number of sides
RDS is the maximum radius if EX=1 and EY=1

EX, EY, X, Y and RODG perform the same functions as in 'PETALS'

BASIC SPIRAL PROGRAM

Here is the base program for creating spirals. The same comments apply as to the Circle program and we will be adding various lines to create more shapes.

```
10 GRAPHICS 8+16:TRAP 30000
20 POKE 710,14:POKE 709,0:COLOR
1:DEG
30 L=0:EC=0:X=150:Y=90:RDS=50
50 GOSUB 100
70 GOTO 70
110 X1=L1*EX*COS(L+RODG)+X:
Y1=L1*EY*SIN(L+RODG)+Y
130 IF L=0 THEN PLOT X1,Y1
140 L=L+ACC
150 IF EC=1 THEN PLOT X1,Y1:
EC=0:GOTO 100
160 DRAWTO X1,Y1
170 IF SQR((X1-X)^2+(Y1-Y)^2)<RDS
THEN GOTO 100
180 RETURN
30000 TRAP 30000:EC=1:GOTO 100
```

The program is, in fact, the same as the circle program with the exception of line 170.

Here are the shapes that you can create with this program.

SPIRAL

Load in the Base Spiral program and add the following lines:

```
40 RODG=0:ACC=1:SPT=0.5:EX=1:
EY=1
100 L1=SPT/10*L
```

Hints for variations:

The smaller SPT is, the tighter the spiral is
RODG rotates the spiral clockwise from its normal
X and Y are the coordinates of the start of the spiral
RDS is the maximum radius of the spiral
EX stretches the shape EX times horizontally
EY stretches the shape EY times vertically
If you wish to change the direction of the spiral, swap the SIN and COS in line 100 around
Try changing line 100 to:
100 L1=SPT/10*L*(1+COS(L)^70)

LUMPY SPIRAL

Add the following lines to the base spiral program:

```
40 RODG=0:ACC=1:SPT=50:
CSP=0.1:NP=8:EX=1:EY=1
100 L1=L*(1+CSP*COS(NP*L))/SPT
```

Hints for variations:

The larger SPT is, the tighter the spiral is
The smaller CSP is, the smaller the lumps on the spiral are
NP is the amount of lumps in one full rotation through 360 degrees of the spiral
EX, EY, X, Y, RODG and RDS perform the same functions as in 'SPIRAL'

SPIKED SPIRAL

Add the following lines to the base program:

```
40 RODG=0:ACC=1:SPT=30:
CSP=0.25:NP=4:KPS=70:EX=1:EY=1
100 L1=L*(1+CSP*COS(NP*L)^KPS)/
SPT
```

Hints for variations:

The larger KPS is, the sharper the spikes are, but do not let KPS exceed 131

NP=half the number of spikes in one full rotation through 360 degrees of the spiral, generally. If KPS=1 then NP=the number of lumps

The larger CSP is, the longer the spikes are

Try making KPS odd

EX, EY, RODG, X and Y perform the same functions as in 'SPIRAL'

The larger SPT is, the tighter the spiral is

To reverse the spikes, change line 100 to:

```
100 L1=L*(1-CSP*COS(NP*L)^KPS)/SPT
```

SPIRALLING POLYGON

Add the following lines to the base program:

```
40 NP=5:RODG=0:ACC=360/NP:
SPT=0.2:EX=1:EY=1
100 L1=SPT/10*L
```

Hints for variations:

NP is the number of 'sides' in one full rotation through 360 degrees of the spiral

EX, EY, RDS, SPT, RODG, X and Y perform the same functions as in 'SPIRAL'

STAR SPIRAL

Finally for our last variation, add the following lines to the base spiral program:

```
40 NP=4:RODG=0:ACC=120/NP:
CSP=1:EX=1:EY=1:SPT=50
100 L1=L*(1+CSP*COS(NP*L)^70)
/SPT
```

Hints for variations:

The larger SPT is, the tighter the spiral is

The larger CSP is, the longer the spikes are

RODG, ACC, EX, EY, X and Y perform the same functions as in 'SPIRAL'

NP=the number of spikes

To reverse the spikes, change line 100 to:

```
100 L1=L*(1-CSP*COS(NP*L)^70)/SPT
```

INFINITE VARIETY!

With these basic programs you should be able to work out how to create an almost infinite variety of shapes and patterns with your Atari. See if you can work out how to combine more than one shape on the screen, perhaps with each shape at a different position. You might also be able to work out how to combine all of the variations into one program so that you choose the shape you want from a menu. You could go even further so that you change the parameters simply by entering the numbers you want to try at an input prompt, or even with the joystick.

Whatever you do, have fun - all the hard work has been done for you!

TURBO OR NOT?

These program all run in ordinary Atari BASIC, however several of them are quite slow so you might prefer to run them with Turbo BASIC which will give you something like three times the speed. If you combine all of the shapes together as suggested above you might like to compile the resulting program for super fast drawing speed.

If you come up with a cracking program using these techniques be sure to let us have a copy.

DISK BONUS

SPACE BAR



A game of memory or chance

by Graeme Fenwick

The year is 2068. Manned expeditions have explored the outer Solar System and established bases there. Large scale mining operations have already started round a number of planets, and the corporations can scent vast profits to be made.

Hearing about the large salaries being paid, you offer your services as a maintenance engineer to the Altiram Mining Corporation.

"You do understand," says the woman behind the desk, "that you'll be working a 15 month shift on the moon of the remotest planet in the solar system?"

"That'll be interesting," you remark absent-mindedly, the huge amounts of money being the only thing on your mind. "When do I start?"

Ten months later, on Charon, you are finding things very far from "interesting". You've only been here four months, and already the novelty of the place has worn off. Even working with aliens loses its appeal when you realise they're all as bad tempered and anti-social as everyone else here. The only place worth going in this hellhole is the Corporation run pub, The Moon and Stars, better known to you and your friends as the Space Bar.

Tonight might be different though, as the Space Bar is holding its annual Test of Memory and Skill with "Massive Prizes!". Perhaps minuscule would be a better description, but you decide to give it a go all the same....

GAMEPLAY You are seated in front of a table. The barman, Mirfak, sits opposite. Mirfak will hide a can underneath one of the covers, then, using his telekinetic abilities, he'll shuffle them around. All you have to do is remember which cover the can is hidden under. Easy? Well, maybe.....

To make things a little more interesting, you can choose to win more money by speeding things up, or having two or more differently coloured cans. Be warned, this makes things a lot more difficult.

If you're good enough you can go on winning money forever. One mistake though, and the game's over.

Don't forget, Mirfak can get bad tempered at times, but his bark is worse than his bite. Usually.

INSTRUCTIONS

Space Bar requires an Atari XL/XE with at least 64K.

On the title page: ***OPTION*** is used to choose the level of gameplay.
SELECT is used to select the number of cans.
START/FIRE is used to start the game.

During the game itself:
JOYSTICK in port 0 is used to control the pointer.

SCORING SYSTEM:

Cans	1	2	3	4
NOVICE	10	20	40	80
EXPERIENCED	20	40	80	160
PRO	40	80	160	320

The game moves up a level every ten cans. When Pro level has been reached, you will start being given more cans to memorise.

TECHNICAL

Space Bar was written in Turbo Basic XL and then compiled using the Turbo Compiler. The compiler behaved quite well, although it took exception to the sound effects which used DSOUND (I had to rewrite these parts).

The graphics were developed using Brilliance v2.0 on the Commodore Amiga, then ported over to the 130XE using a piece of custom software. This software was written in AMOS Pro and lets the Amiga emulate the tape I/O noise of the XE. The XE can then read the tape as if it were a perfectly normal Atari cassette! I may polish this program up and release it if anyone is interested. (For any purists reading, I don't regard using an Amiga to develop XE graphics any differently than I would using a scrap of paper to sketch them out on. Much as I love my 130XE, I haven't come across a piece of graphics software on it with as much flexibility as Amiga Brilliance has. Speed and memory probably come into it a lot, but the fact I can use a mouse to draw helps a lot too. Besides, I'm no graphics expert, I need all the help I can get!).

The three files on the disk are the TB Runtime code, the compiled program code, and the resource file. This contains the two character sets used in the program - the whole screen is GRAPHICS 0 - and the DLI code (the only machine code in the whole program).

HEY! HEY! it's The TIPSTER

Well, at least you have been feeding The Tipster! Our plea for an extended life span seems to have worked and The Tipster is out of his bed and raring to go this issue. Enjoy this but remember we still need lots more nourishment to keep The Tipster healthy. Don't sit back and watch him die, send him something for next time.

MY BACK PAGES

Looking back to issues 78 and 79 there were requests for help with **HAWKQUEST**, **ZYBEX** and **RETURN TO EDEN**. It seems that some help was published for these games way back in 1990/91 (well I can't even remember last week can I?) and **Charlie Ayres** has dug out the following which might help those who are stuck.

HAWKQUEST

If you move the cursor to bottom left corner of the screen and press fire the message 'To cheat press fire' is shown. Press fire and you will be taken to the final sequence of the game. This can also be done from the cassette version. Load up the 'End screen and animation' tape and type ABLTXYZZHA which is made up from all five levels (AB)(LT)(X-Y)(ZZ)(HZ). The way to get three easy flags is to drop ground bombs all the time until you get three flags.

***ZYBEX** and **RETURN TO EDEN** are ☞ ☞*

LANCELOT PART 3

Daniel Yelland has answered a plea in Issue 79 for some help with Lancelot and, although he hasn't finished the game Daniel has found the Holy Grail. Here's a few of the things that got him that far.

To get past the preacher
Make sign of cross

To get past maiden and cakes
Make sign of cross

To open tomb and survive
Get Galahad to open tomb once he has sword and shield and tell him to kill fiend

To get Galahad to help you
Pray at every cross and every church you come across, save maiden and Sir Ector(?), give chalice to pilgrim and blow horn at boat. Galahad will call for help. Attack the knight attacking Galahad and God will help you.

To kill Red and Black dragons (Isle of Turnance)
Using Galahad lead the dragons to each other by making them chase you

To extinguish wall of flame
Keep throwing the Chalice at the wall after you have filled it with water. Get Galahad to do the same with the cup.

To beat the elementals
Fill Chalice with water, Cup with sand and take horn. (Burs, Wait 3, Throw Chalice), (Percival, Wait 2, throw Cup), (Galahad, Wait, Blow Horn), (Take key)

Apologies if some of the names are wrong as Daniel's writing is a little hard to read in places. If you have the game I am sure you can work out any of the bits that are not quite right.

CRASHDIVE

(Page 6 Adventure set #1 Disk 1B or disk #23)

Our trusty helper and tip supplier James Mathrick has once again sent in a huge bundle of tips and maps for various adventures including many PD adventures. As we don't get many tips for the PD adventures we'll start with one of these this issue and we'll bring you more in later issues. Firstly though you'll need some explanation about the mapping system used for this adventure (believe it or not this is actually a map!). The location number occurs on the left, followed by the location name. Anything under the name is an object or objects that can be found initially at that location. On the right is a list of letters and numbers. N,S,E,W,U,D etc. are the standard abbreviations for movement directions. The number following the letter states which location movement in that direction will take you to.

Example:	1 Cave *Bear*	N 22 S 3 E 7

In this example, location one is a cave. In the cave is a bear. Exits are north, south, and east. Moving north will take the player to location 22. Moving south will move the player to location 3, and moving east will move the player to location 7.

The advantages of the system is that it makes mapping much easier (no more confusing boxes and lines everywhere) and a conventional map can easily be derived from it. The only disadvantage is that at a glance, it is not as easy to see which path goes where, i.e. it makes the mapper's task easier, but the player's task slightly harder.

Location	Exits to
1 Escape tube *screwdriver*	D 2
2 Forward Passage *locked door*	N 3 S 4 U D 8 W 20
3 Access tunnel *sign - rad. zone*	N 16 S 2
4 Long Corridor	N 2 S 5 E 14 W 15
5 Command Station *periscope*	N 4 E 6 W 7 D 11
6 Navigational centre *Digital display* *Tactics manual*	W 5
7 Ballast control *Depth Gauge* *Red Button*	E 5
8 Crew's quarters *card*	N 9 S 11 E 17 W 18 U 2
9 Torpedo room *wrench*	S 8 E 10
10 Weapons locker *gas mask*	W 9
11 Missile control *closed airlock* *slot in airlock* *White button*	N 8 E 12 W 13 U 5 S 21
12 Equipment Bay *Rad suit*	W 11
13 Fan room *traitor* *pistol*	E 11
14 Sonar station *Blank scanner* *Green button*	W 4
15 Radio room *Cable cutters*	E 4
16 Sonar sphere *bolted down sonar* *power cable*	S 3
17 Galley *dull knife*	W 8
18 Shower stalls *closed grate* *Shampoo*	E 8 S 19
19 Vent duct *to fan room*	N 18
20 Captain's Quarters *dead captain* *note*	E 2
21 Lower missile bay *locked arming-switch*	N 11 U 22
22 Upper missile bay *digital display* *gold button* *silver button*	D 21

Hints ☞ ☞ ☞

ZYBEX

Start the game on the hardest level.

HARD LEVEL

1	ENCLEDUS	4 extra men
2	PROCYON	5 extra men
3	CENTAURUS	2 extra men
4	ANTRES	2 extra men
5	BEROS	2 extra men

MEDIUM LEVELS

Before going on to SKORPIOUS deal with NECROS first as your weapons are replenished.

1	RICTUS	1 extra man
2	SKORPIOUS	5 extra men
3	TITAN	4 extra men
4	BAEUS	2 extra men
5	NECROS	2 extra men
6	DIABLOS	2 extra men

EASY LEVEL

1	ARCTURUS	Nil extra men

You can have all the weapons at any time by pressing the OPTION button but this only works if you have an OMNIMON chip. (A tip supplied by Brian Jobling, author of Zybex).

To get to the restricted levels you must get all 11 crystals

Each of these levels are revealed one at a time after 8 tokens are gained but are not accessible until you have all 11 tokens

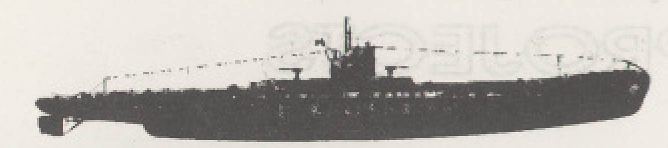
LEVEL 13	PYRIX
LEVEL 14	ZELAX
LEVEL 15	CYRUX
LEVEL 16	ZYBEX

Use the RAIL gun to defeat the end of level guardian. Doing this allows you to differentiate between the guardians and your own bullets.

HELP WANTED

Daniel Yelland needs some help with **THE PRICE OF MAGIK** and wants to know how you find the DED spell. Also he needs to know how to get off the little island scene in **RETURN TO EDEN**.

James Mathrick 4needs some help with **SNOWBALL** and **RETURN TO EDEN**. More specific requests will be included next time but if you have played these games to a finish, how about sending in YOUR solutions and tips.



CRASHDIVE *hints*

HOLD BREATH when first leaving hatch - then find the gas mask.

The aim is to destroy the enemy sub (EXAMINE PERISCOPE) **PUSH RED** in location 7 to buy you time.

Get the radioactive sonar (with precautions - I'll leave you to find those out - but don't forget the shampoo) and **DROP** it in location 19 to kill the traitor.

EXAMINE the **RADSUIT**

SHOOT the **LOCK** on the door.

To get to location 19, **UNSCREW GRATE** with the dull knife.

The rest is for you to work out!

RETURN TO EDEN

Offer fish fungus to LEVIATHAN in river. Plant the brick in green sward with shovel and enter the house plant to find the fungus.

* * * * * * * *

REMEMBER

Do nothing and The Tipster dies. Send something in and he lives again to entertain you for another few issues. Do you really want The Tipster's demise on your conscience?

Send it (by parcel post if necessary) to:

THE TIPSTER
NEW ATARI USER
P.O. BOX 54
STAFFORD
ST16 1DR

Hardware PROJECTS

FREE RS232 (Well almost!)

When it comes to comms, SIO is about as much use as a Spectrum! Edmund Blake describes a home-built RS232 interface that really works

Interested in comms? Me too, interested but unable to get involved because Atari (in the infinite wisdom) decided that the RS232 standard associated with every other micro in the known universe wasn't suitable for their machine and, because I already own a Centronics interface, I couldn't justify the £40 or so needed to buy an 850 or P:R: Connection. I'm not exactly an electronics wizard either. I can wield a soldering iron with the best of them but I need someone else to design the circuit first. What that meant was I knew that building an RS232 interface at home was feasible but I couldn't actually come up with a design.

Enter Philip Whiteside and Page 6.

A couple of weeks ago, while thumbing through a copy of the Page 6 PD catalogue, I came across a disk of comms programs put together by the once immensely popular Ark bulletin board. While skimming through the details of what was on the disk I nearly fell over backwards - details of how to build an RS232 at home for around £12! Before the catalogue had hit the floor I was passing my credit card number to Page 6 and the disk was on its way.

When it arrived, I printed the RS232 doc file and set to work. Then stopped almost at once. The instructions consist of the most incomprehensible collection of double-dutch ever devised. There's an IC pin out 'drawn' with keyboard characters which is absolutely awful, a few arbitrary bits of "... you might need this, but there again, you might not..." advice and no details of how to actually put it together, connect plugs or anything!

Don't get me wrong, I shall be eternally grateful to the very kind Mr Whiteside for devising the interface and then putting it in the public domain for the benefit of us 8-bitters, it's just that I couldn't make head or tail of his instructions.

STARTING TO UNRAVEL

Back to the drawing board. I pored over the plans for a few evenings but still nothing. Along with the IC pin-outs, Philip had included a full component list complete with Maplin order codes so I bought a copy of the Maplin catalogue from W H Smiths and then it all started to unravel a little. The Maplin catalogue featured really useful pin-out diagrams for all its chips together with helpful background information. By studying this information alongside the interface plans, a method of putting it together gradually dawned.

And I'm here to tell you that it works! I've used my 130XE, Pace Linnet and home-built interface to contact BBS's, transfer files between the machine and my Apple Mac Plus, my PC and ST. If you want an RS232 interface for your 8-bit but you don't have the money to buy a commercial offering or enough electronics expertise to design your own, give thanks to Philip Whiteside for designing it, Page 6 for supplying it and pay attention to the following simple instructions.

FIRST GET THE DISK

First you'll need the Ark Comms disk DS#19 from the Page 6 PD catalogue. As well as instructions and a components list for the interface, the disk contains a device handler which hoodwinks the computer into thinking that there's a Datari attached.

Here's a tip for SpartaDOS X users. Rename the RS232.COM device handler to something you'll recognise but DOS doesn't. SpartaDOS has its own - incompatible - RS232.COM driver in the cartridge and typing RS232 at the command line causes DOS to try and install the Sparta program rather than yours. The result is a failure to install either driver and the interface won't work.

Print the instructions file from the disk (or copy the components list from the screen), get hold of a copy of the Maplin catalogue and order the parts. Or, if there's a Maplin store close to you - mine's in Bristol - pop along and buy them. A nice surprise is that the interface is even cheaper to build than 'advertised'. The main component, the MAX232 chip which converts 5V TTL signals into 9V RS232 signals costs just £3.95 - almost three quid cheaper than the price stated in the components list!

For those who know vaguely what they are doing and can't get the 2-pole relay, buy two single pole relays and mount them in parallel. They don't draw any more current than the 2-pole IC and the cost for the pair is almost the same.

GETTING AN SIO CONNECTOR

The one indispensable item you can't buy from Maplin is the Atari 13-pin SIO connector. A few years ago these were pretty thin on the ground but you should be able to pick up and butcher an 8-bit serial cable from several sources.

Here's how I got an SIO plug. I had a female 9-pin joystick connector (available cheaply almost everywhere, including Maplin and Tandy's) and an old lead with a male plug that I'd cut off a broken joystick. I wanted to make use of these items if I could, so I opened the case of my XC12 data recorder, unsoldered the SIO cable and soldered the cable from the joystick in its place. After noting which wires went to which pins on the joys-

tick connector, I closed up the case. Next, I soldered the female joystick connector to the bare end of the newly liberated SIO cable, making sure that the wires coming from the data recorder eventually routed as normal to the connectors in the SIO plug. In effect, a simple through cable joined in the middle by two joystick connectors.

Jumping ahead for just a moment, after building the interface, I soldered a second male joystick connector to it where normally an SIO connector would be required.

Got that? What it all means is that the SIO cable can be left plugged in to the disk drive second SIO port, and I can switch between the data recorder and RS232 interface simply by plugging and unplugging joystick connectors. There's no scrabbling around at the back of the drive and I didn't have to acquire an SIO cable (joystick connectors are much cheaper).

GRAB SOME TOOLS

Back to the build. You'll need some pliers (needle-nosed), a screwdriver or two, a soldering iron rated at around 15 watts and some solder with cores of resin. You'll also need some thin, insulated wire to make jumpers between the various components. How thin? Doesn't seem to matter, just get half a metre of something thinner than the wires you see hanging out of the back of domestic appliances such as the TV set and the like. Ultra low-tech, I know, but it worked for me! Just bear in mind that there's plenty of margin for error - you won't destroy anything - and all will be well.

One final word on safety, the relay IC which connects to your computer has a diode which ensures that the Atari is totally isolated from the interface. Whatever you do, you can't damage the computer.

BEGIN CONSTRUCTION

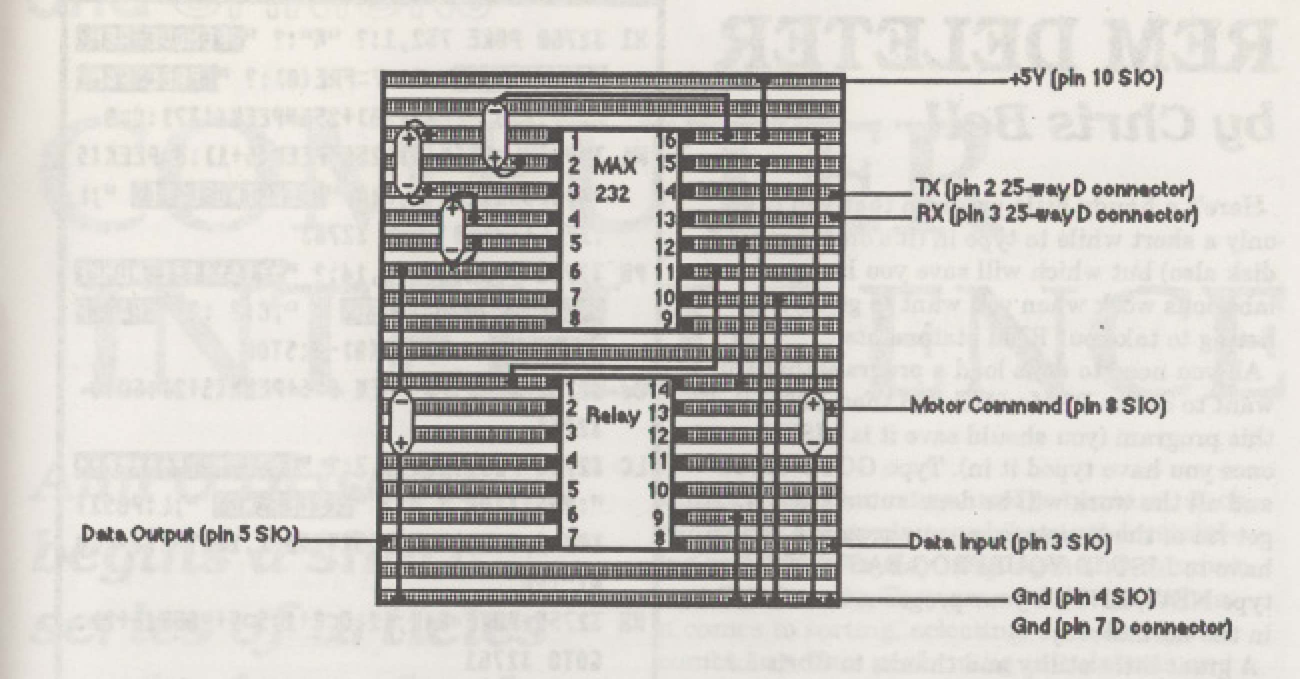
Orientate the Veroboard so that the copper strips run horizontally. The top strip will be a +5v rail and the bottom strip will be ground. Solder the DIL sockets in place one 'above' the other just like the diagram, by pushing them through the holes in the plain side of the Veroboard (so that their legs contact the copper strips underneath).

Here are a few soldering tips. Tin items to be soldered first by heating and melting a bit of solder over them. When you come to attach components to the Veroboard, it's much easier if they've been tinned first. To solder, hold the clean iron against the copper strip and the component until they are both hot, then briefly touch the solder against theMso that it flows. Remove the iron and solder and hold in place until set (usually within a second or so). Don't try to melt the solder on the iron and then take it to the job, it won't work. If the new joint looks bright and shiny then all is well. If the solder on the joint is dull or cracked you've got a bad connection so melt it and start again.

Make all the Veroboard connections as shown in the diagram. The capacitors are not marked + or - (at least, not obviously) but you can tell which is which by the 'lip' - that's the positive (+) end.

After soldering, closely examine the copper strips to see whether any solder 'hairs' have formed between them, shorting out components. A good idea is to score along the slot between each copper strip with the blade of a small screwdriver just to make sure. Next, take a sharp knife and remove a vertical section of the copper strips running between the legs of the DIL sockets so that they don't conduct. Pins must be isolated from each other unless attached with a jumper (see diagram).

The RS232 instructions are particularly



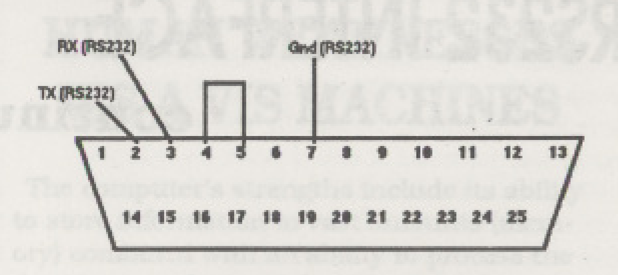
RS232 interface:what it looks like on Veroboard

Note that the copper strips are on the opposite side to the components and are shown here for the sake of clarity

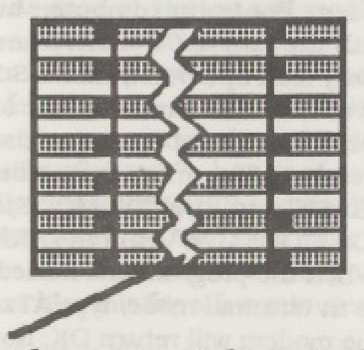
vague about how to handle transmit and receive handshaking such as CTS/RTS and DTR/DSR. fortunately, however, you don't need to worry about it. Simply solder a jumper wire from pin 4 (RTS) inside the 25-way D plug to pin 5 (CTS) in the same plug. This will fool attached equipment such as modems or other computers into thinking that correct handshaking is taking place. The interface won't work without it.

TRY IT OUT

After checking the device for bad connections and solder hairs, you're ready to connect it and try it out. Plug it in to the free SIO port on your disk drive (if you built the interface with an SIO connector) or into the SIO cable (if you disgorged the cable from a data recorder) and connect the 25-way D plug to



Pin-outs for 25-way D connector (to modem)



Remember to scratch away the copper strips between IC pins

REM DELETER

by Chris Bell

Here's a handy little program that will take only a short while to type in (it's on the issue disk also) but which will save you hours of laborious work when you want to go through a listing to take out REM statements.

All you need to do is load a program that you want to delete REMs from and then ENTER this program (you should save it is LIST format once you have typed it in). Type GOTO 32760 and all the work will be done automatically. To get rid of the listing from your program you will have to LIST "D:YOURPROG.BAS",0,32750, type NEW, ENTER your program then SAVE it in the normal way.

A great little utility and thanks to Chris for sending it in.

```
XI 32760 POKE 752,1:? "K":? " REMOVE REM
   STATEMENTS ":? :F=FRE(0):? " FREE RAM
    = ";F:S=PEEK(136)+256*PEEK(137):C=0
WA 32761 L=PEEK(S)+256*PEEK(S+1):B=PEEK(S
   +4):POSITION 2,6:? " READING LINE  ";L
   :IF L<32760 THEN 32763
PH 32762 POSITION 2,14:? "↑↑↑↑↑↑↑↑↑ NUMBE
   R OF LINES DELETED = ";C:? :? " RAM R
   ELEASED = ";FRE(0)-F:STOP
CJ 32763 IF B<>0 THEN S=S+PEEK(S+2):GOTO
   32761
LC 32764 POSITION 2,7:? "↑↑↑↑↑↑↑↑↑↑↑↑↑↑↑↑
   ":POSITION 2,8:? " DELETING  ";L:POSIT
   ION 2,9:LIST L:POSITION 2,20:? L:? "CO
   NT":PO
HX 32765 POKE 842,12:C=C+1:S=S+PEEK(S+2):
   GOTO 32761
```

RS232 INTERFACE continued

the modem. Boot your computer, bung in the disk with the RS232.COM driver and select the binary load option L from DOS 2.5 or run the driver from the command line of SpartaDOS (bearing in mind the name clash mentioned earlier). The driver is installed in RAM.

Boot BASIC and RUN "D:AMODEM4B" or RUN "D:AMODEM7B" from the ARK Comms disk. When the program has loaded, and once you are in terminal mode, type ATz. If all is well, the modem will return OK. Now type ATd together with the number of your favourite Bulletin Board. The modem will dial and you'll be connected. If it doesn't work, check all the connections, replacing any that look bad. There really isn't anything that can go wrong apart from bad connections, so it shouldn't be too difficult to get a non-working device going.

And that's it, a working, home-built RS232 interface. Mine cost around £8 complete, although I did have one or two connectors already. It should be possible to build the entire thing, from scratch, for around a tenner! Once again, thanks to Philip Whiteside for his kindness and cleverness and Page 6 for being around to supply it, and a lot of other good advice too.

COMPUTER INTELLIGENCE

Ann O'Driscoll begins a short series of articles exploring whether the computers are intelligent rather than the users

From the time the first mainframe computers began to appear in the 1940s/1950s people began to think that they might be used to simulate human behaviour. Early computers were often labelled with the phrase 'electronic brain' and the extent to which they were capable of "intelligent" thought became a topic of major concern.

However, an early lesson learned by scientists trying to build mind-like machines was that tasks that are hard for people are easy for computers and conversely, tasks that are easy for people are hard for computers. Computers are at their worst trying to do the things that are most natural to humans, such as seeing, manipulating objects, understanding ordinary everyday languages and common sense reasoning. They are at their best when it comes to sorting, selecting, comparing and combining data, performing calculations and making decisions based on data. All this can be done at speeds and with a degree of accuracy which people can never match.

HUMAN WEAKNESSES VIS A VIS MACHINES

The computer's strengths include its ability to store information in vast amounts (memory) combined with an ability to process the data in accordance with strict procedures (logical reasoning). People, on the other hand, aren't nearly as good at storing and recalling facts - studies have shown, for instance, that our short term memory - where we hold information for a few minutes at most when it's being processed - is particularly poor, with an average capacity of about 7 chunks of data. You can easily check this out for yourself, by trying to multiply say, 247 by 73 in your head! Another test is to look at a string of random letters like this for a few minutes:

whfc xty gfrxb ldkyt aklmc mnzpli

Now see how many you can recall 5 minutes later.

If our memories aren't too good, the bad news is that our logical reasoning isn't too hot either: The classic textbook example of this is the statement

if she likes me, she'll go out with me
she goes out with me
therefore, she likes me

This sounds like a perfectly reasonable conclusion at first glance, but if you think carefully about it you'll see that the reasoning here is faulty, because the girl could go out with the guy for all sorts of reasons. It seems that people are always making logical errors like this, because we mix up "if" and "if and only if". Computers, of course, will always get things right provided we program them properly.

So how do computers use their great memories and logical reasoning abilities? Well, all forms of number crunching would be a main area. Indeed, the first computers were created to calculate. The British computer, Colossus, completed in 1943, successfully cracked the German Enigma code during the second world war because it could scan code keys tens of thousands of times faster than was humanly possible. At about the same time in America, a computer called ENIAC worked out anti-aircraft artillery tables at speeds similar to Colossus.

The first Artificial Intelligence programs produced by the mid-1960s could prove theorems in geometry and solve algebra and calculus problems without much bother. Game playing involving logic is another area where excellent performance was achieved by computers early on. The success of game playing software is due to a clear understanding of some of the strategies used in game playing and to the large memories and fast processors of modern computers - in other words, a combination of brute force and intelligence! In noughts and crosses for example, there are only a limited number of moves in all, so a computer can follow every consequence of every possible move right up to the end of the game and so pick the most favourable option. Computers are much better than people when it comes to this kind of repetitive processing. For more complicated games like chess, or even draughts, where the number of possible moves multiplies very rapidly, sophisticated techniques can be used to prune searches.

HUMAN STRENGTHS VIS A VIS COMPUTERS

The other side of the story of course, is that computers don't have intuition, nor can they make sense of vague information the way humans can. A lot of research in this area suggests that humans have an advantage over computers in certain tasks like perception, motion, language comprehension, lateral or open ended thinking, and so on because of the way we deal with information. For the most part, computers deal with data sequentially, through a single central processing unit. The brain, on the other hand, is made up of billions of neurons connected in a complex parallel, distributed structure. Parallel processing means that different parts of a job are done at the same time; distributed processing means that separate brain areas look after separate segments of a job. The brain's ability to split a complex task into a number of smaller, simpler tasks and complete those tasks simultaneously give it a huge advantage over computers in areas where these skills are important.

Needless to say, work is ongoing all the time to try and move the computer into the areas where humans traditionally do best. In this regard, 'Expert Systems' are probably the major success story of Artificial Intelligence research. These are computer programs that act like a human expert in predicting the outcomes of events or diagnosing problems. They do this by referring to a large database of specific knowledge in a given area, and by using rules to draw conclusions. In something like a car maintenance system for example, the untrained user would type in the symptoms and the computer could give a diagnosis or maybe ask more questions to pin down the problem further. Computer vision programs are another area where rules of thumb about how patterns are to be interpreted are applied to various situations - these generally work best when there's not too much variation in input. Another line of approach has been to try and develop computers to mimic the structure of the brain. Instead of a single CPU, these systems use networks of simpler processors which learn patterns by trial and error, just like the brain does.

COMPUTER INTELLIGENCE

CONCLUSION

So where does this leave things? Some people would say that computers are intelligent if they can do "intelligent" things like play chess or act as an expert system. Others would argue that we can't say machines are intelligent unless they can do everything that humans can do. The British scientist Alan Turing, the man behind the Colossus computer mentioned above, came up with a test which said that computers could be classed as intelligent if a human, communicating with it by means of a keyboard and screen, could be fooled into thinking that he was talking to another human.

The next article will take a look at programs involved in getting computers to understand "natural language", or ordinary everyday words typed in at the keyboard

The CLASSIC PD ZONE

by Austin Hillman

There is a fifth dimension beyond that which is known to man. It is a dimension as vast as space and timeless as infinity. It is the middle ground between light and shadow, between science and superstition, and it lies between the pit of man's fears and the summit of his knowledge. This is the dimension of imagination. It is an area which we call the Classic PD Zone.

Apparently Stuart Murray is still adrift in his lifepod awaiting rescue. He has managed to send me a sub space communication and has asked that I fill in for him, pending his return to Earth. I am delighted to do so.

SPOOKY

THE X-FILES COMPANION (DS129) has been compiled by Kevin Cooke, your previous PD Zone guide, with the help of Stuart Murray. It is a two disk set looking at the popular television series and other related matters.

Side one gives you the lowdown on the series, its creator, the actors, and the characters they play. It also covers merchandise, fanclubs, fanzines, and Internet sites. Plus the best and worst episodes are reviewed.

Side two starts with episode guides for the first two series. It continues with more background information, and looks at the Punt and Dennis Z-Files spoof. It also poses the very important question, 'Is Scully a thickie?'. Finally you can test your knowledge of the series in a multiple choice quiz.

Side three looks into the contents of the real life X-Files. UFO's, spontaneous human combustion, Yeti, strange deaths, water beasts, reincarnation, ghosts, astrology, alien types and Fortean events are covered. Aliens as portrayed in other TV series and two film reviews are also included.

Side four investigates the events that occurred in July 1947, when an alien craft with four occupants crashed at Corona, New Mexico, 75 miles north west of Roswell. The infamous autopsy footage is examined in detail. This is followed by discussion of some more recent incidents in Britain, and in the gulf war. Finally the disk rounds off with a look at aliens on the 8-bit, with a selection of classic games reviewed.

This is an very nicely presented attempt at covering a very large subject, and Kevin has done his very best to squeeze a quart of articles into a pint pot of disk space, though inevitably the programme information already needs to be updated to include the later series.

It will certainly leave you wanting to know more. I would suggest you visit your library, where I have found many interesting books and videos covering these subjects.

SHOOTY

MEGABLAST 1 (DS76) created by Torsten Karwoth in 1992, is in my opinion one of the best shoot-em ups ever seen on the Atari.

On booting up you are presented with the credits while the program checks what memory you have. If it is 128k or larger it will load a digitised sound track by Genesis, taken from Amiga samples. If not you get computer generated music. Both options come with a good range of combat sound effects.

The three pages of intro screens detail the controls, hazards, and power ups available. If you don't like the digitised music you can select the standard soundtrack instead. Options for two players, player against computer or computer against computer are available.

Press the trigger to start and you are presented with two ships in opposition, top and bottom of the screen, with a barrier in front of each, and deflector screens randomly positioned in front and behind the ships.

The object seems simple enough at first, simply blast the opposing ship, but to do so you must first shoot holes in your barrier, and then his barrier, while avoiding both his shots and your own ricochets from the deflectors. Shots can be deflected all over the screen, you can even shoot yourself in the back.

Hazards and power ups appear at random and are collected or destroyed by shooting them - if the deflectors will allow you to hit them. As the higher levels are reached more deflectors and hazards appear.

The bombs can cause a chain reaction as one sets off the others, filling the screen with a hail of shrapnel which you must avoid if you can. You have nine lives to start with. Bonus lives are available, and you will need every one when the bombs start to explode and the shrapnel begins to fly.

So in conclusion, this is a first class highly addictive game that is so well presented you just won't believe it is in the public domain.

Also on this disk is the Small Demo from ABBUC. This opens with a picture of a polar bear on an ice floe before going to the main display which has large alternating ABBUC/POKEY heading, a horizontal scroll, random stars and four bouncing bars, plus the usual catchy tune.

SUNDRY

SUNDRY UTILITIES (#288) as its name suggests is a collection of utility programs that you may find to be useful.

REBUILD will help you recover a damaged disk by rebuilding the directory. Any other damage to the sectors, sector chain, or VTOC, will have to be repaired first before using this program. It searches through each file and its sector chain to produce a new directory, and can be used just to check a disk. Documentation is provided separately as well as being included in the program itself.

RELOCATE+ is an aid for machine code programmers. It will allow you to relocate even non-relocatable programs to any memory position you require. It also includes a disassembler. Documentation is provided.

SPEED SWITCH is a small program that controls ANTIC and thus the speed of prog-



8-BIT PROGRAMS ON THE PC

Richard Gore recently acquired a PC but, don't worry, he still intends to keep supporting the Atari.

He has been playing around with PCXFORMER and has converted several of his software titles to run in this format on the PC. Currently BUBBLE ZONE and ARENA are available and there are more in the pipeline. These programs are being offered for sale and a catalogue should be available shortly. If you want further details get in touch with Richard by sending a SAE to

Richard Gore, 79, Sprotborough Road, Sprotborough, Doncaster, DN5 8BW.

MORE NEWS?

Well, we don't know of anything new happening, but if you pick up some news about Atari or the Atari world, perhaps on the Internet, please drop us a line, so we can all share it.

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ram execution. Three speeds are available - normal, plus 15%, or plus 30%. Normal speed operation leaves ANTIC switched on. Plus 30% operation switches ANTIC off. Plus 15% operation rapidly switches ANTIC on and off in order to allow continued use of the screen display and still speed things up. Documentation and a demonstration program is included.

APPOINTMENT is one of several calendar programs that are about. It is otherwise entirely unremarkable. I use a pocket diary myself and I suspect so does everyone else.

HSCROLL is a horizontal scrolling text demo in BASIC, simple but effective. OVERWRITE will delete a disk file and zero the sectors to prevent recovery. VERIFY checks through your disks for problems sector by sector.

TINY MENU is a simple BASIC program that offers the ability to check the directory, run BASIC and Binary programs, or reboot. BIOCHART will produce monthly biorhythm charts of your physical, emotional, and intellectual cycles, individually or for a year ahead.

DRIVE TESTER checks the speed of your disk drive. As it has been written for an American 60Hz system it reads 20% fast on British 50Hz drives. To correct this, in line 140 change 24*3600 to 20*3600, and all will be well.

RATINGS

THE X-FILES COMPANION (DS129)	**90%**
MEGABLAST 1 (DS76)	**95%**
SUNDRY UTILITIES (#288)	**70%**

You have travelled through another dimension, a dimension not only of sight and sound, but of mind, a land whose boundaries are that of imagination. You have just left the Classic PD Zone. •

THE NOSTALGIA column

by Dean Garraghty

THE AMS SHOWS

As hinted at last issue, this time I will be getting nostalgic about the All Micro Shows.

You may be thinking that the AMS shows haven't been going long enough to get nostalgic over, but they have been going since about 1988-ish, which is a lot of years! Most Atari 8-bitters "joined" in 1989, although I do know that BaPAUG (Colin Hunt) did the one in London the year before. In fact, the very first AMS show was held in a sports hall somewhere very obscure which I can't remember the name of (somewhere in the West Midlands I think)!

Originally, AMS was short for Alternative Micro Show, which eventually became All Micro Show. It was originally organised by a small two man team called Taurus, which made the early shows that bit less formal. Taurus were essentially a Tatung Einstein software supplier, and the show was originally just for these now almost unheard of machines. Then the show became open to any "alternative" machines, which basically meant any old and obscure machines, like the Tatung, Spectrum, ZX81, QL, BBC, TI-99/4A, Oric, and lots of other weird machines!

THEY FOUND ME!

I first heard of the AMS show after I placed one of my regular small ads in Micro Mart (yes, this was when you could advertise for free without them rejecting the ad and trying to flog you an over-priced display ad instead!). Taurus obviously went through looking for anybody who would fit into the "alternative" bracket. They sent me details about the London show, but I just didn't have the sort of money they wanted for a stand (I was in my first year at college at the time). Later they sent me details of AMS3, which was the first one they did at Stafford and ,for some reason, the stands were way cheaper (about 1/5th the price of the last one), and I therefore had more chance of getting a stand. Even so, this was quite early on in my career as a supplier and I was still at college. I think they wanted about £25 for the very smallest stand without any power supply. I must admit that I had terrible difficulties raising the money and I managed to avoid paying for as long as I could by sending letters to Taurus by 2nd class post asking all sorts of stupid questions about the show. Yes, the truth is out all these years on!

I eventually raised the money and the stand was booked. At this point (November 1989), I only had about 10 PD disks and a bit of

software called DMS (a very crude early forerunner of Digi-Studio). I remember that I was hoping to release v2.0 of this at the show, but found massive bugs in it just a week or so before. I spent a long hard week making it work to sell at the show! I also had a load of tapes and carts. and some hardware of my own that I wanted to sell but that was about all!

MY FIRST SHOW

I can still remember the morning of that show as if it were yesterday. We were going down on the train (me and my parents that is), which wasn't easy with all the stuff we were carrying. We had arranged a lift to the railway station. It was a typical damp November morning, and it was raining (like every year after this as well!). We had to change at Birmingham station to get the train to Stafford. In typical BR style the guy on the station directed us to the wrong platform and we missed the train (it could have been a language problem - he was speaking Brum after all!). We caught the next train, but we got to Stafford about 9:30, and the show opened to the public at 10:00. We managed to get in the hall, and then tried to find the stand. We were totally lost, so I asked somebody who turned out to be Colin Hunt. The stand we were supposed to have had been nicked by a QL supplier, so I ended up nowhere near where I was supposed to have been (next to a Spectrum software supplier of all people!). We frantically threw everything on the stand and just waited. At this time I didn't have ANY sales experience behind me, and really just didn't have much of a clue about promotion and such like. The other problem was that I couldn't afford a power supply for the day, so I had no way of demonstrating any of my stuff.

At 10 a.m. the doors opened, and I was totally amazed at the number of people who came through. I must have spoken to hundreds of people that day, many of whom are still customers now! I managed to sell quite a few copies of what I had. I was also cleaned out of all my used software and hardware. I think I went home with about £150, which to me as a student was a massive amount of money! In fact, this is probably the only show at which I made a profit! I also bought my old XMM-801 printer for £50, which was a fantastic bargain and went on to last me 4 years. I found the printer by accident after going round all the stands asking if anybody had any Atari disk drives. One guy said no, but he had some printers at the back of the stand. The deal was done and I went home happy! I also bought a copy of SAM (the talking program) for £10, which thrilled me! At the end of the day the taxi picked us up and we went back to the station. My first show ever! I was on a massive high, and I remember not being able to sleep that night!

GETTING TOO COCKY!

I remember that soon after the AMS show, there was a show in Tamworth. Being on a high from the AMS show I decided to do this show as well. What a BIG mistake! It was basically thrown together by two guys who didn't have a clue! There were only about 6 stands, and about the same number of visitors! I lost a lot of money on this show.

A TRIP FROM WALES

By AMS4 (November 1990) I was in my first year at University. This presented a bit of a problem, because I was over in Aberystwyth and the show was on a Saturday, but I had lectures on the Friday so I couldn't really slope off the day before. The solution was to catch the very first train out of Aberystwyth at about 5 a.m. on the day itself. This was no easy task! I was living on the campus which was only about a mile from the station (to be honest, everywhere in Aberystwyth was only a mile from the station!), but getting all my gear to the station at this time in the morning was to prove difficult. I had all my Atari gear at University so all this had to be carted off to the show (by this year I could afford a power supply for the day!).

I managed to borrow a couple of very large suitcases (which became my trademark in later years!), and everything fitted in these quite nicely. However, getting them to the station required some effort. My first thought was to book a taxi. Most wouldn't come out so early, and the few that would wanted stupid amounts of money. I think one wanted £20!! I decided that I would have to walk. Now these suitcases were so heavy that they would barely lift off the floor, and I had TWO of them! I could only walk about 100 yards and then I had to stop for a rest. I set off about 4 a.m. for the station, and arrived about 10 minutes before the train went! I had to change at Wolverhampton for the train to Stafford. I remember that there were some problems because some trains were badly delayed due to a strike or something at Manchester. Luckily, my train wasn't affected.

I hit problems on the train to Stafford because somebody took offence to my two large suitcases and started to give my a load of grief about it. I just put up with this because I just wanted to get to the show.

I arrived at Stafford about 9 a.m. and jumped into a taxi to the show. I remember the driver was asking me about the old Aquarius machines, which he had recently been given. I remember giving the guy a fiver for a £2 journey and telling him to keep the change! He was pretty stunned (and so was I later when I realised what I'd done!).

That day I met up with my old mate Bill Todd who was sharing a stand with me and who was selling off all his old Atari gear. Also, my parents had brought some people down and they brought the essentials like food, and the TV for the computer set-up (there was no way I could get a TV on the train!).

THE HIGH POINT?

By this year the AMS show was pretty much well established and quite a few people knew me from the year before. The show was also promoted more professionally, and there were a lot more stands and more visitors. We only had a 6ft. stand, which was tiny because we were in between Page 6 and Micro Discount who had massive stands in comparison! I remember Micro Discount had a MASSIVE amount of stuff from Atari, all of which was sent back to Atari as not working. The pile of stuff stretched all the way along the back wall and went right up to the roof! By the end there was almost nothing left! I had managed to get a load of good PD from the US, so I had a lot more stuff to sell! I also had more used tapes and stuff, which sold quite nicely. We were a bit short of space, but most people managed to see us. The best deal of the day for us was a load of cheap 5.25" disks we were selling at about £2 a box. We had actually done a deal with another company just two stands down from us, and bought them out of disks! Yes, that's where they come from if you were one of the many people who bought blank disks from us that day! The cost of the stand for that day had gone up quite considerably, and I think I only just about made a profit! It was still a great day that I remember quite fondly.

A REALLY BIG STAND!

By AMS5 (November 1991) I hit a bit of a problem. That very early train from Aberystwyth didn't exist any more (typical BR!). The first train out wasn't until about 7 a.m., which was useless for me. The only solution was to go up to Doncaster on the Friday and travel down to Stafford from Doncaster on the day itself. This meant skipping some lectures, which I didn't feel too comfortable about, but I had no choice! I also had another problem, though I didn't know it at the time! The guy who was supposed to be driving us down couldn't make it which left me with no way of getting to the show. Luckily, Mike Blenkiron stepped in at very short notice and saved the day.

For some reason, the stands this year were amazingly cheap and I remember having my biggest stand ever - 24 feet! It was so big, you had to shout to each other to be heard! This year my PD library had grown quite considerably, and I also had the first working part of Digi-Studio on sale for the first time. I also had a load of used software and hardware. I had bought the hardware earlier that year from Micro Discount at a radio rally. I had spent quite a lot of time getting it working properly over the summer, and now it was time to sell it! And sell it did! I was totally cleaned out by the end of the day! I spent the entire day demonstrating and trying to sell that first part of Digi-Studio. It didn't really do an awful lot at this stage. It only had the keyboard player and a very basic tune player, but no way of creating your own tunes. I was after a fiver a copy with a printed manual (which you may remember I had only just had printed the day before! - read the review of AMS5 on one of the old News-Disks to find out more about this), which I thought was a good deal, and so did about 15 people who bought a copy! Visitors to this show may remember I had it running all day with the volume of the TV turned up very loud. The theory - if it makes a noise they'll come and see what it is!

I think I probably did make a small profit that day, mostly because of the hardware, but the costs of the show were massive because of the hire car and the petrol. I enjoyed the '91 show a lot, it still had a great atmosphere and it was at this show that Mark Keates and Paul Saunders came along and helped for the first time. These guys still tag on even now!

END OF UNIVERSITY DAYS

AMS6 (November 1992) was the last show I did as a student. It was also the first year we were stuck on the side wall, next to a fire door and a leaking roof! In 1992 I was in my final year at University, and work was piling up. I found it very difficult to prepare for this show. Again, I had to miss lectures on the Friday, but I think I didn't miss an awful lot. I also spent a lot of time during the week leading up to this copying loads of disks. It was at this show that I was finally ready to release a full working version of Digi-Studio, and I was racing against time to get it working properly! I didn't have problems with the manual this year because I printed them all out on A4 using the University laser printer, which actually cost me a lot less than using the University photocopier, so work that one out! We also did some sort of deal which got you issues 1-9 of the News-Disk for a fiver. I had copied 10 sets of these, which sold out after about a couple of hours, so we had to keep copying more.

This year I had a similar problem to the previous year's show because Mike Blenkiron was unable to drive me down, but I only found out about this a couple of weeks before the show. A quick begging phone call to Richard Gore and all was well! We also had Bill Todd with us again, who was living near Doncaster at this stage. He was stuck in the back of the van with all the stock! That '92 show was probably the last good one we actually did. There was still that good atmosphere, and I wasn't under any real pressure to make money, which allowed for quite a relaxed time. Again, my main task was to sell as many copies of Digi-Studio as possible, but this was no easy task at £12 a copy! I think I sold about 10 copies, which wasn't too bad, although I had produced about 25 copies so I went home with a load! I also remember selling quite a lot of PD disks at this show, which certainly doesn't happen these days!

DGS IS BORN

In November 1993, I did my first AMS show as Dean Garraghty Software, rather than just plain old me as a student enterprise!! It may not sound like a big difference - we had the same stuff, the same people behind the stand and such like, but it was very different to shows of the past. This time it was important to make a profit, or at least break even, which put more pressure on me and ruined the great atmosphere of shows past. You may remember that I had Harald from PPP Germany over for this show, which was a great experience for all involved. We were mainly concerned with showing the public the new PPP range for the first time, along with showing our newly formed printed magazine. The magazine caused us some problems, as you may have read in the review we did for this show.

It was very difficult to have a good atmosphere because for the first time ever I was preoccupied with boring things like profit margins, sales targets and that sort of thing. The stand had cost a MASSIVE amount of money now that I was operating as a company, rather than a user group, and just trying to recover this was a big headache. I remember being quite disappointed that day, but compared with shows to come it was relatively good!

TWICE A YEAR

In 1994, the show was to become a twice yearly event, with one show in April and the other in November. The April 1994 show was excellent because we managed to sell a stack of used hardware and software and actually made a very good profit for the first (and last!) time ever. Indeed, I made such a good profit that day that it enabled me to get into other things, such as supplying disks and things. However, things were to get quite bad at all shows from then on. As the Atari 8-bit user population decreased, so did the number of people visiting the Atari stands at the show, and sales slumped to a point where we started losing money.

GREAT TIMES

I have had some fantastic times at the AMS shows, and I have many many fond memories, especially from the very first ones I did. I have had the opportunity to meet and work with some great people at these shows, and this has led to other things and work opportunities. I am still in some doubt whether I'll be doing any more AMS shows, so if I don't do any more I would like to thank everyone who has come along and bought from us at these shows, and all the people who have volunteered their time to come and help me out. ●

ADVENTURES...why Bother?

Totally committed adventurer James Mathrick attempts to convince you why you should succumb to the world of adventure

Okay, so the title may not be very original, being a blatant rip-off of the titles of Daniel Baverstock's articles (NAU Issues 71 and 72), but the question has to be asked. After all, a lot of fuss was made about adventures in the early days of Atari, and they still remain popular today - so what's the big deal about them?

WHAT IS AN ADVENTURE?

Brillig (one of the Tipster's ancestors) summed adventures up as "a fantasy which you, the hero, have to explore, often with the object of finding treasure or rescuing princesses, and generally being a hero."

The line between arcade games and adventures was very fuzzy in the 80's. In his book, 'Atari adventures', Tony Bridge included arcade adventures (or Arcventures for short) and games like Jumpman within his definition of adventures. I, however, will not. Do not, however, confuse arcventures with graphic adventures which will be discussed later.

Adventures are also known as interactive novels, in other words you will be presented with the storyline by the computer and you must make the choices in the story as the main character.

To reach an understanding of adventures, we will look at each aspect of them in turn.

THE DISPLAY: Upon booting up an adventure, you will usually be greeted by an introduction, a text description of the first location, and a prompt. Some adventures also include a constant display of the turn number, your score, exits from the location and your inventory (what you're holding). Graphic adventures will also have a picture of the location, usually taking up half the screen.

THE LOCATION DESCRIPTION: This will vary with the quality of the game, memory restriction, and whether the adventure is disk based.

At the lowest level (e.g. Level 9) the description will be something like

"You are in a cave. Exit south"

which is not terribly exciting. Better adventures (e.g. Infocom, Magnetic Scrolls etc.) will have descriptions that fill a screen, or more, describing everything from sights to smells. This kind of description will allow the player to become more involved with the adventure.

THE CHARACTER: There are three types of character interaction:

Computer-puppet type: this description will be something like 'I am in a forest. What do I do now?'

Character-puppet type: this was used in Level 9's adventure 'Lancelot'. The description for this type would go 'Lancelot was in a forest. What did he do then?'

First-person type: this type is used in most adventures. The description would go 'You are in a forest. What now?'

The differences between the types is slight, but the effect is great - I personally prefer the last type, as it allows the adventure to become much more personal.

THE PROMPT: As you can see above, the prompt will usually be something along the lines of 'What now?', although some games will provide symbol prompts e.g.'===>'.

The prompt is where you type your input. As the main character in the story, you have to perform your actions through the keyboard, that is you type in the actions you want to perform within the game and press RETURN. Whether your input is understood or allowed depends on the quality of the parser, a routine in the program that deciphers your inputs for the computer.

A hint for beginners: in older or lower quality adventures, the parser will assume the first word you type is the verb, and the second is the noun, i.e. READ BOOK will be understood, whereas READ THE BLUE BOOK ON THE SHELF will not be understood, usually resulting in the response 'I don't understand' or 'You can't read a THE'. If you follow the traditional verb-noun input, however, you will avoid a lot of frustration.

Some adventures, notably Infocom, will understand near-English inputs but as a hardened adventurer, I tend to use the input 'GET KEY' instead of 'GET THE RUSTY KEY FROM UNDER THE TABLE' - much less work!

COMMON FORMS OF COMMUNICATION

There follows a short list of classic verbs that most adventures will understand.

GO/MOVE: Moving around in the adventure is usually by means of compass directions,

NORTH, SOUTH-WEST etc. although, after years of abbreviation, these will usually be shortened to N,S,E,W,NE,SW,SE, and NW. Some games will also understand GO CAVE or RUN CAVE, which will take you directly to that location. You will also need U(p) and D(own), as well as OUT and IN. Shortening IN to I, however, may be confused with INVentory.

INV(entory): this will give you a list of what objects your character is carrying.

GET/TAKE: If you type GET COIN, and the coin is in the room, and not glued to the floor or anything, then you should end up with the coin in your inventory.

DROP/LEAVE: Most programs have a limit to how much you can realistically carry in your inventory, so you will often have to DROP an object in a room once its usefulness is over.

EXAMINE: Possibly the most useful command - it allows you to take a closer look at an object or location - it may yield a clue or even a hidden object. READ often has a similar effect.

LOOK: Often this reprints the description of the location, although it is sometimes used as EXAMINE. Remember to try verb forms like LOOK UNDER or LOOK BEHIND.

QUIT: Stops the game - usually you will be asked 'Are you sure? Y/N' when you type QUIT.

OPEN: Used for doors, chests etc. sometimes you will have to UNLOCK the object first. You may also have to CLOSE it after you too.

HELP/HINT: This may reveal a cryptic, or not so cryptic clue with the game, a contact address, or nothing. It's always worth trying.

HIT: Some form of violence may work against doors, although rarely will you have to resort to violence against other characters.

***#&*?!:** Swearing is often understood by a parser, and will usually evoke some humorous response, such as 'Such language!' or 'See how many others I recognise!'. Don't expect the parser to recognise every swear word and variation you know, however!

SAVE/RESTORE: Another vital function of an adventure - always SAVE your position in the game if you are trying something dangerous - if you are killed off you will lose all of the hard-won progress you have made. Variations on this include RAM SAVE and OOPS.

WHAT IS THE POINT OF ADVENTURES?

So what have we got so far? A world presented in story-book form in which you can explore and manipulate objects. Is it only a poor imitation of virtual reality then? Not so. The main difference between adventures and VR (apart from the fact that the pictures in your mind are better than those in a VR helmet) is that adventures have a point, a goal.

The traditional goal of adventures is to find a set number of treasures and deposit them, usually in, or near, your starting location reaching a maximum score when this happens. Over the years, however, the quality of adventures has improved as has the goals. Modern adventures will have you running around trying to reconstruct a legendary bow, a magic bracelet or raise enough cash to pay off debts. Now it seems it is as it should be - the only limits are the limits of the imagination. Add to this plenty of minor sub-plots and goals and adventures start to become interesting. However, it would not be much fun if you just walked around, picking up the treasures and collecting points. For a full adventure, you need some challenge.

PROBLEMS

In the first adventure, 'Adventure' written by Willie Crowther and Don Woods on a mainframe, the only thing stopping you picking up the treasure scattered around a tunnel complex were dwarves and other such beings which needed to be killed in order to progress. Needless to say this could become tedious and unexciting. Luckily adventures have evolved, and problems are more complex and the logic of adventure programmers seems to get more and more obscure. Great fun!

Problems fall into several categories (in order of difficulty and fun)

OBJECT POSSESSION: For example, having garlic in your inventory stops the vampire biting you when you walk into the vault. Or having the ID in your inventory means you can walk into the security area without being stopped by guards. This kind of problem requires little brain power.

OBJECT MANIPULATION: Tying the rope to the tree in order to climb the tree, standing on the chair to reach the shelf - you know the sort of thing.

CHARACTER MANIPULATION: Wandering around the adventure world, other than yourself, there is usually a whole cast of other characters, sometimes termed 'monsters' regardless of their disposition. ASKing them stuff or TALKing to them will often yield clues, and some adventures require you to order them to perform actions in order to complete problems.

CHAIN PUZZLES: This is the best type of problem. To give an example (also quoted by Brillig) from a Scott Adams adventure, you have to wake a dragon with some bees, which have to be caught in an empty bottle - after you have covered yourself in mud in order to stop them stinging you. The bottle is full at first and needs to be emptied onto some lava in order to reach a treasure.

As you can see, chain puzzles can get complicated, and they are often a mixture of the other types of problems, but linked together by logic however obscure it may seem.

MIND PUZZLES: Anagrams, magic squares, riddles and locking systems have all been used to varying effects. Anagrams are good if subtly used as clues, although the other mind puzzles may become infuriating if they cannot be solved and may detract from the game. Programmers - use this type of problem with great care!

OBJECTS

All that is really left to mention are the objects. Again, the programmers' imagination is the limit - prepare to face gold bars, exploding birds, magic charms and so on. Prepare to be surprised.

What we are left with is an alternate reality, which is under the dual control of an Atari programmer and an Atari owner - you can can see why adventures can be so exciting.

HOW DO YOU PLAY AN ADVENTURE?

Mainly by gritty perseverance, months of frustration and elation and sheer inventiveness. Unhelpful? Okay, here are a few pointers.

Look around each location and examine everything in detail. Due to the Atari's limited memory, programmers cannot afford many red herrings, so it could be said that every object has a purpose, and EXAMining them may provide some helpful clues. However, this rule is regularly broken so exercise caution and common sense - examining the large meat-grinder shaped machinery next to the warning sign too closely would not be recommended - not without saving you position, anyway.

Save your position before attempting anything risky - or save regularly for that matter, in case you missed a problem early on in the game. If only life was this simple.

Make a map. What with Level 9 boasting 7000+ locations in Silicon Dreams, you are going to get lost - so make a map. Always have a pencil and a supply of paper at hand before attempting an adventure, especially if it has a maze in it - more about these later.

Try the unusual. Of course in real life you wouldn't dream of sliding down the mountain in the tea tray or trying to eat the wardrobe, but this isn't real life - save your position and try the stupid. Even if it doesn't get you anywhere, you may get a funny response.

WHAT MAKES A GOOD ADVENTURE?

This section is aimed at those of you planning to write an adventure or those thinking of buying some adventures.

GRAPHICS OR NO GRAPHICS?

This is still an undecided and heated argument amongst adventurers - in the end it is down to personal preference, so a GRAPHICS OFF option is good. The argument against graphics is that the only graphics computer you need is lodged inside the human skull. However graphics, especially well-drawn graphics, will demonstrate the Atari to its full potential and enforce the author's desire to create a real world.

It's up to you.

PET HATES

MAZES - Infamous amongst adventurers, these location-fillers and time-wasters infuriate and frustrate adventurers and show a lack of imagination on the part of the author. So there.

PEDANTRY - Having to UNLOCK the door with the iron key before pushing the handle, with your hand, before you can OPEN the door. This is stupid. All you should need is OPEN DOOR.

RESTRICTIVE VOCAB - especially in the case where the location description tells you THERE IS A HUT HERE, and the parser not understanding the noun HUT. Aaargghh!

ARTIFICIALITY - which stems from limited programming e.g. there will be a routine

which lists the objects in the locations after the description. If there are no items in a location, you will see the phrase 'You can see a.' And if you happen to wander into Heaven, you will probably receive a description of the wondrous splendour of Pearly Gates and so on, followed by the phrase 'God is here.' Anti-climax, isn't it? What you really want is a passage describing the magnificence and power He radiates, rather than the impersonal statement above.

Also, locations should fit in with each other, in order to get into Heaven in the first place, you should have to die, or experience some near-death experience. I know that I said the author's should let their imagination run wild, but there should always be an underlying base of logic and reality behind a game.

Combine this with competent programming and crafted text, and you should avoid the artificiality mentioned above, which basically destroys the world the adventure is striving to create.

DECENT ADVENTURES

My last word is on decent adventures which I believe should be deep, that is the player, although not allowed to venture to far from the plot, should be able to deviate slightly from the story only to be deviated back to it in a humorous and believable way by the author.

For example, in the Infocom game Witness, you do not need to hit Sergeant Duffy (a co-character) in order to complete the game but if you do, he 'slaps you right back. It hurts too.' A lesser game would have said 'I'm not violent' or 'You do not need to HIT DUFFY to complete the game' or, even worse, 'I don't understand'.

This leads onto another point - a lively sense of fun and a good blend of humour will make a good adventure into an excellent one - but never 'crack jokes' in an adventure - after the umpteenth playing of the game, the same joke will be wearing quite thin, and will annoy the player.

WHAT MAKES AN ADVENTURER?

Hopefully, you do. If you were not one before, I hope this article helps. Just try anything your imagination can think of, remember that the verb list above is not the definitive list and remember to try the unusual.

Be prepared for long hours over a hot keypad, reams of paper, frustration, elation, and probably some form of caffeinated beverage. However, seeing as most of you are dedicated programmers, you will already be used to that!

WANNA START?

If you are looking to start in adventuring, a good, inexpensive option would be the Adventure Set 1, or Aura Adventures (PD#251) from Page 6. Commercial adventures, past and present, are hard to come by, but Infocom and Magnetic Scrolls are very beginner-friendly.

If you are interested in writing adventures, why not try the Wizard Adventure Creator from Page 6 (PD#127)?

Happy adventuring!

Many thanks to Brillig, for his articles, and Tony Bridge, for his book, from which I gained the inspiration for this article. Hopefully I have not unconsciously plagiarized these sources too much.



CONSTANT CONVERTER

John Foskett's new program saves you memory by making constants into variables

The use of variables to replace often used constants in a BASIC listing is a well known memory saving technique. Briefly a constant requires 10 bytes of memory storage whilst a variable requires only 4 bytes which is a saving of 6 bytes of memory each time a variable is used in the place of a constant. Using this technique, it is possible to gain a saving of about 10% in memory space, depending of course on the size and type of listing being considered. Obviously a large program where many different often used constants can be replaced with variables would represent the greatest saving in memory. Using variables to replace constants has other advantages other than memory saving as variables are accessed quicker than constants resulting in an increase in program speed, albeit only slight. Another advantage is that it gives more variables to change when protecting a program listing. Atari BASIC allows for up to 128 variables and Turbo BASIC allows for up to 256 so why not take advantage of them?

AUTOMATIC CONVERSION

The program presented here will convert all the constants found in a listing which appear more than three times and which match the programs conversion data, into variables. The program works by reading an ASCII file of the listing to be converted from disk and analysing and counting its constants and then writing the converted file back to the disk again as an ASCII file.

When a constant is converted into a variable, a prefix letter is inserted in front of the constant so that, for example, using the letter "N" the constant 712 becomes N712.

Any number found within double quotes such as for printing text onto the screen or for defining strings is NOT changed by the program and any number following a REM or a DATA statement is also NOT changed. Any constant that follows a line number reference instruction such as GOTO, GOSUB, THEN, etc. is also not converted into a variable.

THE OUTPUT FILE

The output file written to the disk as an ASCII file is identical to the input file with the exception that many of its constants will have been converted into variables. A subroutine is added to the end of the listing beginning on line 32000 to define the newly added variables and a REM is written to line 31999. The line numbers increment in tens in the normal way with five defining instructions per line and RETURN appears alone on the final line. A GOSUB instruction is added to the start of the listing on line zero to call the subroutine. Hence it follows that these line numbers, that is line zero or greater than 31998 must not appear within the INPUT file. If these line numbers are found in the input file then a listing error will result.

Once the OUTPUT file has been written to the disk, it is then a simple matter to ENTER it in the normal way. The variable defining subroutine may be left at the end of the listing or if required, it may be incorporated into the listing's initialising routine.

The subroutine defines the variables directly as follows (using the letter "N") N0=0 N1=1 N2=2 N3=3 N4=4 etc. but it may be rationalised by hand to save even more memory as follows N2=N1+N1 N3=N2+N1 N4=N3+N1 etc. The point here is that adding, subtracting, multiplying, etc. two variables together means using 8 bytes (4 per variable) resulting in saving a further 2 bytes over using a constant. Note that there is no need to equate N0 to zero because all variables are automatically zeroed whenever a program is run and therefore N0 will be equated to zero automatically. Also note that any number raised to the power of 0 is equal to 1.

CONVERSION DATA

As previously stated, the program works by comparing its conversion data with the constants found within a listing and therefore any constant found within a listing which does not appear in the program's data will NOT be converted into a variable.

The program's conversion data contains all the numbers between 0 and 256 inclusive, numbers representing the DL/DLI/VBI vector registers, 512/513, 560/561 and 546 to 549, the colour registers 704 to 712 and some of the commonly used PMG registers. The data also contains some other often used register numbers such as 559, 752, 764, etc. The program has the provision to include extra data along with the standard conversion data to cover the lesser used constants should they be required.

USING THE PROGRAM

The first process is to LIST to disk the program listing which is to have its often used constants converted into variables.

When the program is run, a lined screen is

presented for clarity and a prompt with a flashing cursor invites the file name of the input ASCII file to be entered. After entering the file name, several checks are performed to ensure that the file name is legal otherwise the entry is cleared and a new entry is prompted for. A default file name of PROGRAM.LST has been included which is entered by simply pressing RETURN. The file name for the output file is then established using the same file name as the entered input file but with the extension "VAR" whether or not the input file name had an extension. For this reason, the input file name must not use the extension VAR.

After the input file name has been successfully entered, the next step is to enter the variable prefix letter which is prompted for again with a flashing cursor. Any letter from "A" to "Z" may be entered (without pressing RETURN), the letter "N" being the default entered by pressing RETURN as well as by pressing the "N" key. At this point ESCAPE may also be pressed to exit.

After entering the variable prefix letter, a prompt is presented to add extra data to the standard conversion data. This option is selected either by pressing "N" for no or "Y" for yes or again ESCAPE may be pressed to exit. Here the default is "N" to use only the standard conversion data. Upon pressing "N" for no or RETURN, the standard data is loaded, after which the option to press RETURN to continue or ESCAPE to exit is given. If "Y" (for yes to add extra data) was selected, then the maximum of 30 extra data values is prompted for and each value entered is displayed on screen in 6 columns of 5 entries per column. Before an entry is accepted, it is checked against the standard data and any previously entered data in order to avoid repeated values being entered. To clarify the columns of extra data on screen, they are preceded by the previously entered prefix letter shown in inverse. Should less than the maximum of 30 extra data values be required then TAB is pressed with SHIFT to exit, ending the data list. Exit is automatic after entering the 30th value should that many values be required. After pressing SHIFT/TAB to exit or after automatic exit following the last data entry, the data entered together with the standard data is loaded after which RETURN is pressed to continue or ESCAPE to exit as before. If extra data was selected, but no values entered, SHIFT/TAB will exit and load only the standard data as if extra data had not been selected.

Upon pressing RETURN, the input file is read and analysed, pressing ESCAPE will exit. After each line of the input file has been read and analysed, a list of the constants found which appear more than three times is printed on screen, holding START pauses the list to allow closer inspection. At the end of the list, the total number of constants to be converted into variables is given for reference. Pressing "L" from the menu reprints the list, ESCAPE exits and RETURN allows the process to actually convert the file to begin, writing the output file to disk.

If, when the input file was read, no constants were found that appeared more than 3 times, then there would be no point in continuing so in this case, exit is the only option provided which is actioned by pressing ESCAPE.

A CAUTIONARY NOTE

Whilst the program does a very good job of converting often used constants into variables, it should be noted that the program does not count the total number of variables the listing contains. It is therefore still up to you, the programmer, to ensure that the maximum number of variables is not exceeded.

TECHNICAL DETAILS

ERROR TRAP

A full error trap routine is included which displays all possible disk I/O errors. The error trap routine is also responsible for detecting the end of file (EOF) error 136 and for returning control back to main program. Variable "PP" is used to establish the number of POPs required (either 1 POP or none) to avoid stack errors since a disk error could occur either inside or outside a loop.

DISPLAY LISTS

The program uses 2 display lists, a normal mode zero, but lined screen is used for the main display and a special 4 line mode zero screen is used for displaying all errors found. The display lists are defined together as L$ and MOVEd into page 6 at address 1536. The address of the main screen display list is 1536 and the address of the error trap display list is 1590.

PMGs THE CURSOR AND TEXT CLEARING

The program uses player zero as the cursor for keyboard entry. L$ is dimensioned to 256 bytes, initially loaded with zeroes (the heart character), it is used to clear the player stripe using MOVE prior to defining the cursor shape again using MOVE. Because the vertical position of the cursor varies, L$ is used to clear the player stripe each time prior to the cursor being redefined in a new position. L$ is also used to clear text from the screen by MOVEing a length of it into the relevant part of the screen RAM.

PRINTING A LINE ON SCREEN

Prior to printing a line on screen, that is the line of BASIC read from the input file stored in L$, the display flag at location 766 is POKEd with 1 to enable all ESCAPE-CONTROL characters to be printed on screen as a character without the computer acting upon them. After printing the line, location 766 is reset to zero to allow for normal screen printing.

LINE EXAMINATION

Each line of the input file is read into L$ in turn at the start of the main DO-LOOP loop after which each line is examined by a FOR-NEXT loop. Before entering the FOR-NEXT loop, the program performs a check to ensure that the line number of the line stored in L$ is legal within the range specified to ensure that the line would not be overwritten by the variable defining subroutine. The next step is to remove Turbo BASIC's indentation and if the program is in the first pass to print the line (L$) onto the screen. The length of L$ is next extended with 20 spaces to give room for manoeuvre within the FOR-NEXT loop when converting the constants found into variables.

WITHIN THE FOR-NEXT LOOP

The first check is to find any line number reference commands such as GOTO, GOSUB, RESTORE, etc. and to bypass them. This is achieved by first finding a numeral and stepping back to check if it is preceded by such a command (using L$) and if so, the numeral is bypassed.

The next step is to record the number of double quotes found in the line to establish whether numerals found are inside or outside double quotes, the variable DTO is used for this purpose. If the number of double quotes is an odd number, then the numerals found

are within double quotes such as characters for printing onto the screen or used for defining strings and are therefore bypassed. If the number of double quotes is an even number, then the numerals found are outside and are then considered for converting into variables.

Whenever numerals are found, the next step is to establish whether or not they are true constants which is done by checking the preceding character by comparing it with the characters stored in Z$. Z$ contains all the characters which BASIC allows constants to follow and if INSTR finds a match, then the numeral found is a true constant.

At this point the actual character which could be the constant concerned or the start of the constant is read from the string and a check is made to ensure that its ASCII code is that of a numeral. The VALue of the numeral is then taken and loaded into a string (VAR$) preceded by a hash (#) and followed by an AT (@) which prepares the constant ready for comparing with the conversion data.

Assuming a match with the conversion data has been found, its number of occurrences is counted during the first pass and if it occurred more than three times, it is converted into a variable during the second pass.

COMPARING THE CONVERSION DATA

The 300 elements of standard conversion data are loaded into the array during the programs initialising and any extra conversion data is loaded into the array following the standard data should extra data be required. Thus at the time the conversion, data is loaded as described in the section USING THE PROGRAM, the array contains all the required data and this is transferred into a string (V$). The conversion data is stored in V$ with each element of data preceded with a hash (#) and followed by AT (@) so that INSTR can be used to find a match with the prepared constant stored in VAR$ as described above.

Another numeral follows the AT (@) which is the relevant data element's numeric position within the array so that INSTR can be used again if a match has previously been found to establish the position of a constant within the array. This allows the number of times a matched constant has occurred to be recorded in the array during the first pass and if necessary, to be converted into a variable during the second pass.

To clarify how comparing the constant found with the conversion data finds a match, consider the following example....

Consider finding the constant 710 (the playfield 2 colour register), then 710 will be stored within VAR$ as "#710@". Now consider the following section of V$ where the data element 710 is stored "...#709@270#710@271#711@272...". It can be seen that INSTR can find a match between V$ and VAR$ and therefore 710 will be considered for conversion into a variable. It can be seen from the section of V$ that 710 is followed by the number 271 which is the position of 710 within the array. This number is located again using INSTR but using the previous match as the starting point.

The array is dimensioned thus A(329,1) where the first column (the 0s) stores the actual data elements and the second column (the 1s) records the number of occurrences of the associated data element.

AFTER THE FOR-NEXT LOOP

As soon as the FOR-NEXT loop is exited during the second pass, the extended length of L$ is first removed and then it is written to the disk and printed on screen. Unlike the first pass where the line is printed on screen before entering the FOR-NEXT loop, during the second pass the line is printed on screen after exiting the loop to allow its conversion to variables (if any) to be examined.

VBI ROUTINE

A small deferred VBI routine defined as a string (VBI$) is used to disable all lower case and inverse characters to ease keyboard entry and to flash the colour of the PMG cursor between two preset values (144 and 150). The routine is also responsible for disabling the attract mode and for disabling the CONTROL-1 stop-start toggle.

PROGRAM BREAKDOWN

To help study the listing, a breakdown of the program's procedures, labels, strings and major variables follow....

PROCEDURES

BEEP The beep
CLICK The key click
CURSOR Controls the horizontal position of the cursor. Used within the INPUT procedure
INIT Initialising routine
INPUT Controls keyboard entry
IPSUB InPut SUBroutine, controls data entry. Used within the INPUT procedure
REMOVE Removes additional spaces added to the length of L$
SPACES Removes any leading or lagging spaces from I$. Used within the INPUT procedure
SUB Writes the variable defining subroutine for the output file

LINE LABELS

#BY End of the analysing FOR-NEXT loop
#CHG End of the main DO-LOOP loop
#EOF Return point from the error trap routine after detecting the End Of File (EOF) error 136
#ER Entry point for printing listing errors to the screen if line number errors are found in the input file
#ERROR Start of the error trap routine
#RERUN Resets the VBI vector to rerun the program
#START Start of the main loop for reading the input file, analysing, counting the constants, manipulating the data and writing the output file
#STD Start of the standard conversion data list

STRINGS

CL$ 16 spaces for clearing text from the screen
FI$ Input file name
FO$ Output file name
I$ For storing data entered from the keyboard in the INPUT procedure
L$ Stores the lines as read from the input file and where the constants are converted into variables. Also used to load the display lists into page 6 and for clearing the PMG player 0 stripe and clearing text from the screen
LD$ (Line Down) A line of CONTROL-N characters
LU$ (Line Up) A line of CONTROL-M characters
**NUM$** Used to establish the length of the line number of the line on BASIC read from the input file stored in L$ and also used in the SUB procedure to write the constant/variable defining to the disk
T$ The program's title
**U$** Used with L$ for inserting the variable prefix letter when converting constants into variables

V$ Stores the conversion data in the form of a string to enable INSTR to be used to search for matches

**VAR$** Stores a found constant as a string prepared for comparison using INSTR with V$

VBI$ the VBI routine

**W$** Stores 4 characters of L$ during a search for constants and rejects them if a line reference instruction such as GOTO, (G)OSUB, (RES)TORE, TRAP, etc. is found

Z$ stores the symbols that may legally precede a constant to establish if a numeral found during a search is a true constant

MAJOR VARIABLES

AL Address of L$ used for PMG stripe clearing and text clearing using MOVE

CUR, POS, PRV, MAX, XX, YY: General variables used in the INPUT procedure to position the cursor and text when entering data from the keyboard

DAT FOR-NEXT loop variable for entering extra data from the keyboard

DTO The number of double quotes found during a search used to establish if any numerals found are inside or outside double quotes. If inside double quotes, the numerals are ignored

ER Allows the error trap routine to print listing errors

EXT Variable determining if extra data is required entered from the keyboard

LAST The last data statement loaded into the array used to check extra data entries and for loading the data into V$

LINE Line numbers of the lines used in the variable defining subroutine in the output file written to disk by the SUB procedure

LN Length of L$

LTR ASCII code of the variable prefix letter entered from the keyboard

NUMBERS Flag variable to disable all except numerals when entering data from the keyboard

PASS: Flag variable to establish the first and second pass functions

PMB PMBASE address

PP The number of POPs necessary to avoid stack errors since disk errors could occur inside or outside a loop. 1 POP if PP=1, none if PP=0

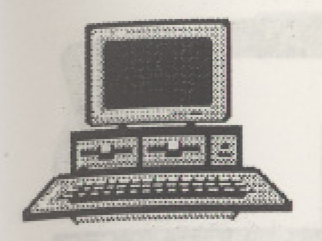
SCR The screen RAM address DPEEK(88) used when clearing the player 0 stripe and erasing text from the screen

AND FINALLY

Many of the program's constants have been converted into variables by this program itself! The variable defining subroutine has been incorporated into the programs initialising routine and the variables use the prefix letter "N". ●

THE LISTING

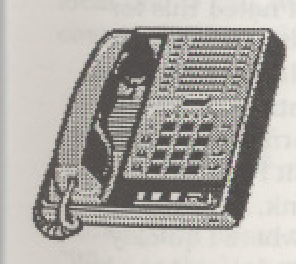
CONSTANT CONVERTER is too long to include in the magazine as a type-in listing and is therefore on this issue's disk ready to run. For those who would prefer to type it in, a fully TYPO-coded printed listing is available on request. See the inside back cover for details.



JOURNEY INTO CYBERSPACE

Searching for the Atari Classic

John S Davison explores the Internet and goes....

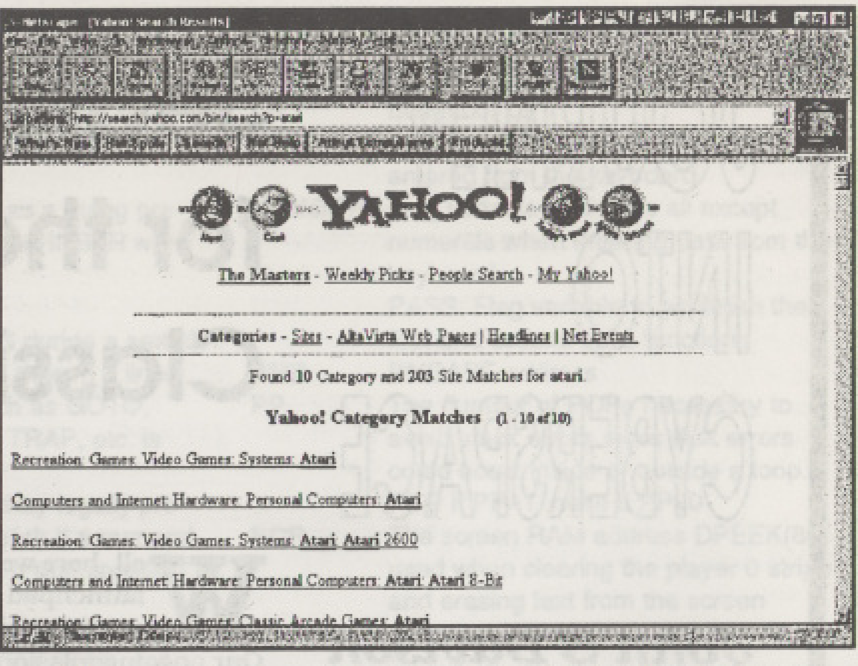


Well, here we are again, poised on the launchpad ready to blast off on another journey into Cyberspace. Our ongoing mission is to seek out Atari-friendly Internet sites and to report back on what's there. Last time we investigated Atari related Newsgroups found on Usenet, accessed via CompuServe's WinCIM software running on an IBM PC. Our latest expedition will be made using Netscape Navigator (again running on an IBM PC) to access the World Wide Web (WWW). If you've forgotten what the WWW is, take a look at NAU Issue 76 where all was explained.

As with all journeys into Cyberspace our first task is to locate a convenient "jumping off point". With the WWW this is best done from one of the many search engines that have been set up to help you find your way around the WWW. I often use the search engine known as "Yahoo", and a few seconds after keying its URL into Navigator I was connected and keying in the search request. Using "Atari" as the search subject produced 10 category and 203 site matches, so there's obviously a fair bit of Atari related material out there for us to explore. Note - the URLs of all sites visited are all listed at the end of this article.

Yahoo's search results screen also listed the first ten references, set up as hypertext links





The result screen from a Yahoo search on "Atari"

(a.k.a. hyperlinks), allowing access to any of the listed sites simply by mouse clicking on them. I chose a category containing "Atari 8-Bit", and a further list of eight hyperlinks appeared, the first of which again said "Atari 8-Bit". A click on this one whisked me off to "The Atari 8-Bit Home Page", which from its URL seemed to be based in Holland. It's run by Ivo van Poorten, who claims it's the first and the best Atari home page. However, it appeared to be incomplete and was last updated in April 1996, so it looks like Ivo lost interest in it. I decided to explore it anyway, and present my findings here.

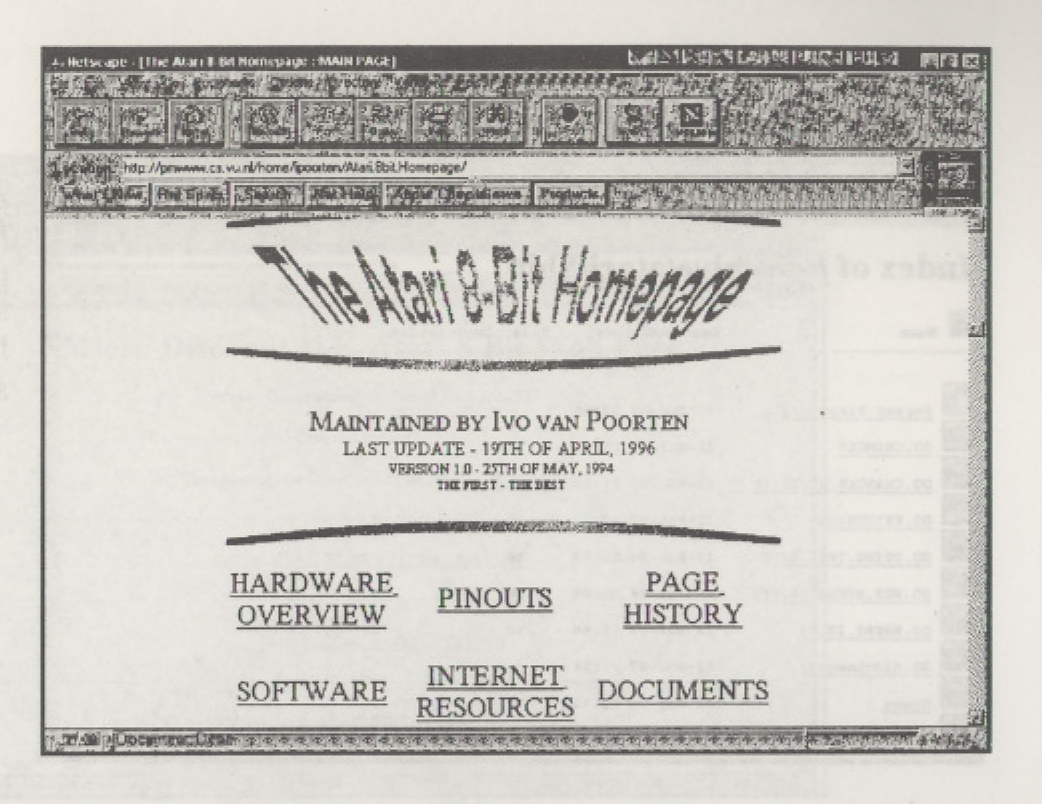
ATARI 8-BIT HOME PAGE

This site is split into six major sections, each accessed via a hyperlink. The sections are Hardware Overview; Pinouts; Software; Internet Resources; Documents; and Page History. The Hardware Overview attempts to provide basic technical details of all known Atari hardware, (including that infamous vapourware) together with photographs of some items. However, the details are fairly basic and there's nothing much on the vapourware, despite a request from Ivo asking visitors to the site to send him details on any item they might know about. The Pinout section would no doubt be very useful to hardware hackers, but unfortunately all the diagrams are in Postscript and/or Fig format, and as I have no software capable of displaying or printing these I couldn't look at them. The software section is a disappointment too, as it contains only three items - a sound module player; a file decompression utility; and a set of tools for manipulating XFD disk images as used by 8-bit emulator programs.

The Internet Resources section is far more interesting. It contains hyperlinks to lots of other Atari related sites, so I noted this for later investigation. The Documents section too, showed great promise. It has hyperlinks to all sorts of useful information, in ASCII, Postscript, and Hypertext formats. To sample it I clicked on the "Atari 8-Bit FAQ" (Frequently Asked Questions) hyperlink, and this took me out to an FTP site from where I quickly downloaded the document. It was written by Michael Current of Carleton College in Minne-



The Atari 8 Bit Home Page



sota, USA, with contributions from many other people. It runs to 37 A4 pages and is an absolute goldmine of information on 8-bit systems, covering all manner of useful topics and telling you where on the Internet to find even more.

This is one of the great attractions of the Internet - there's always a trail to follow to find more material. You usually find yourself wanting to access "just one more link" to get even more information. It's almost like being addicted to a computer game, where you need to have "just one more go" to improve your score. The difference is, you need to be constantly aware of the phone call costs if you're paying for the Internet link yourself. However, most people can now access the Internet via a local phone call, which at weekends now costs only about 60p per hour.

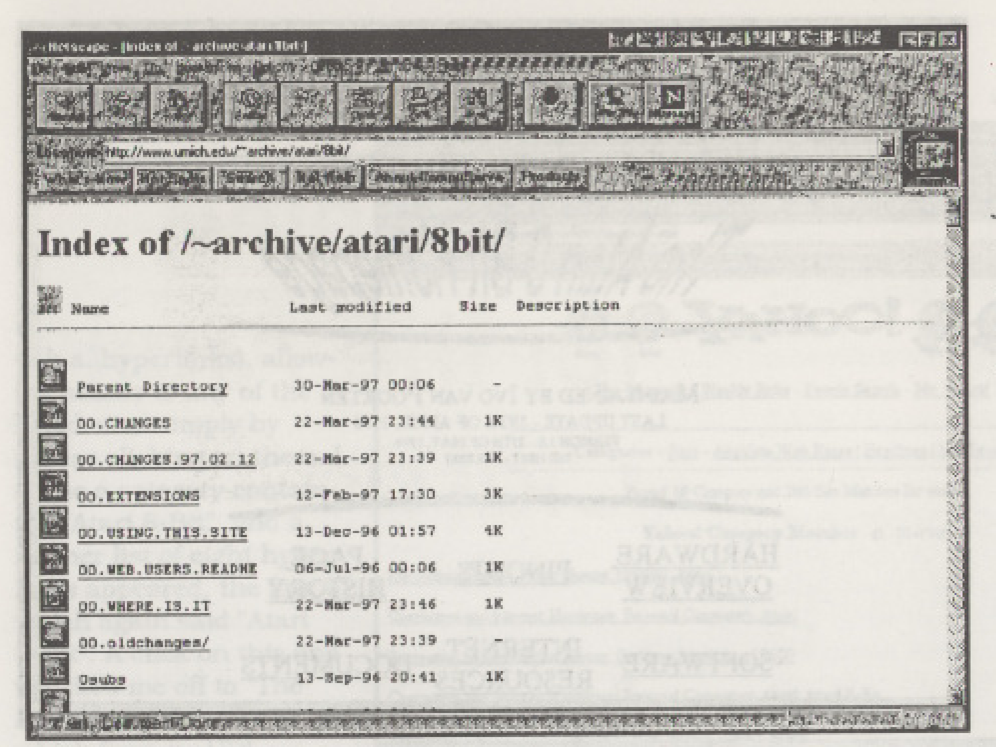
ATARI ARCHIVES

One of the items covered by the FAQ is "What is the University of Michigan Archive?" It explains that this is a major archive site for material for many different computing platforms, including Atari 8-bit. It then describes several different ways of accessing this resource, including FTP, Gopher, and WWW. Using the URL recommended in the FAQ I got straight to it without problem. There's a whole smash of stuff here, archived under about two dozen different subject headings, including complete application programs, demos, utilities, games, programming languages, communications programs, and so on. You can download any of this for free at any time. It looks good, but I've seen comments elsewhere on the Internet saying that Atari support is now beginning to wither at sites such as this, with Atari material being gradually removed as time passes. Ominous.

The FAQ mentions other archive sites too, including Boston, PVV, ClarkNet, Gatekeeper, Polish Demo, and Slovakian archives. All of these are reached via FTP. The FAQ also said the Boston Archive based at Boston University may now be lost, and this seems to be the case as I couldn't find any sign of Atari material when I accessed it.

Next stop was PVV (ProgramVareVerstedet - that's Norwegian for Software Workshop, I





The index page from the University of Michigan Archive Atari 8-bit section

believe!) based at the University of Trondheim, and this seemed to have a lot of material available. One interesting looking area here was the Antic directory, which appeared to have all the type-in programs published in Antic magazine from way back when. However, attempts to download these produced error messages saying the files weren't there. I'm beginning to think the "withering support" comments were true after all.

ANTIC AND ANALOG

The PVV material was mirrored from the ClarkNet Archive site, so I made that my next port of call. It has two main sections, called "Antic" and "Analog", each containing programs published in those two famous Atari magazines, now sadly long gone. The programs are grouped by month, packaged together and compressed into an archive which can then be downloaded (for free) as a single item. Each group therefore equates to the disk available with each issue of the magazine (and costing a small fortune at the time, I seem to remember). Analog issues covered are from July-85 to Dec-89, and Antic from Nov-84 to June-90. There didn't seem to be much explanatory documentation available, so I downloaded the Analog group for July-85 to find out what it contained. There were ten programs there, which from the file names I'd guess were written in a mix of BASIC, Assembler, and Action.

You've probably already noticed the one big snag. How do you get all this free material onto your 8-bit system if you use a PC to access and download it? The Atari 8-bit FAQ mentioned earlier covers this, with information on reading IBM PC 5.25" disks on an Atari system, and transfer of data using terminal programs and a null modem connection. It suggests specialised hardware and software you can use to achieve the former, and describes the RS-232 pin connections needed to create your own null modem cable for PC to Atari data transfer. For this to work you also need a suitable 8-bit RS-232 interface, such as the Atari 850 Interface Module or a ICD P:R:Connection. This could make a great subject for an article in NAU - do I hear anyone volunteering to write it?



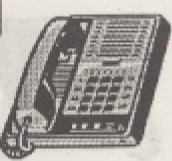


MICRO DISCOUNT HOME PAGE

I recently received an e-mail note from Derek Fern of Micro Discount saying he's begun constructing a WWW home page for Micro Discount. This is a great idea, as it allows Derek to publicise an up-to-date list of his available products to a worldwide audience at very low cost. NAU gets a mention in it too. Although still under construction it's open for visits, so do take a look if you have WWW access.

Site References

Yahoo Search Engine	http://www.yahoo.com
The Atari 8-Bit Home Page	http://pmwww.cs.vu.nl/home/ipoorten/Atari.8bit.Homepage
University of Michigan Archive	http://www.umich.edu/~archive/atari/8bit
Boston Archive	ftp://cs-ftp.bu.edu/PC/ATARI
ClarkNet Archive	ftp://ftp.clark.net/pub/atari
PVV	ftp://ftp.pvv.unit.np/pub/atari/8bit/
Micro Discount Home Page	http://ourworld.compuserve.com/homepages/derekfern





NAU gets a mention on the Micro Discount home page

NAU INTERNET CONTACT LIST

The following is a list of NAU readers who'd welcome e-mail from other Atari users. If you'd like to be added to this list please drop an e-mail note to John S Davison at the address below.

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